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**Developing the Rural Landscape: Sustainability Efforts through
Women Home Gardens in a Yucatec Maya Community**

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Abstract

Developing the Rural Landscape: Sustainability Efforts through Women Home Gardens in a Yucatec Maya Community

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The University of Texas at Austin, 2011

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Marginalized rural populations are the main actors in a growing multi-disciplinary effort to conserve some of the most biodiverse and culturally rich regions of the world. Within a context of greater political tensions and environmental worries on a global scale, alternative modes of development are drawing greater attention. Sustainable development, women in development and indigenous land use are all important issues in the rural landscape. This thesis examines these issues in the Felipe Carrillo Puerto (FCP) ejido (communal land-holding) community in Chemax, Yucatan, Mexico, which has been working in collaboration with a national non-governmental organization (NGO), Bioasesores, A.C. Focus is placed on the ‘Women’s Home Gardens Project.’ This new take on an old tradition aims to reduce economic pressures, improve access to nutritious foods, and empower the female group through participatory strategies. The NGO-community relationship, of which there is a growing multitude in Latin America, becomes critical in this endeavor. Through ethnographic data based on interviews with

the women and participant observation, it is clear that decisions made by this Yucatec Maya community function within their political environment, economic pressures, and societal norms. The environmental consultants working within the community exercise well-intentioned, participant-based methods that improve upon government actions of the past; however there are several challenges that are not fully addressed. There is a clear potential for these efforts, though there are also problems that call into question the project's sustainability. In a region that continues to struggle due to external economic pressures, there is a need to ensure that current development efforts in the ejido take both the needs of the people and environmental conservation into account. The rural landscape continues to develop in Mexico, and both NGOs and local communities are actively involved. This research offers a glimpse into the dynamics of one relationship between an NGO and an ejido, and provides suggestions for improvement.

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Chapter 1: Introduction

The rural landscape of Mexico is a mixture of deep cultural inheritance, ecologic diversity, and economic struggles. In places that are so rich in culture and natural resources, it is paradoxical to witness the everyday financial struggles that increasingly affect the inhabitants of these areas. Families are split apart as individuals search for income in nearby cities or neighboring countries; health is compromised as there are minimal nutritious food options and facilities; educational opportunities are cut drastically short; and natural resources are becoming polluted or diminished. These are just some of the grim realities that exist in rural Mexico. At the grassroots level, people are reacting to these problems. Individuals participating at this level are governmental or nongovernmental workers who usually come from outside and work directly with the people at the community scale. A process of change begins from these individuals through *conscientisation* (Burkey 1993). In poor regions – like the Mexican countryside – where subsistence agriculture prevails and economic opportunity dwindles – a *conscientisation* about the environment is occurring. Instead of continuing to exhaust natural resources, people are attempting alternative development schemes.

As Burkey states, development should be about people first, but further, it should be about a people conscious of their environment and its (and their) sustainability (Burkey 1993). Sustainable development schemes attempt to reach a compromise between economic opportunity and ecologic conservation. The aim of this research is to present a case study of this process in action. Moreover, it delves into the key role that women play in sustainable development and the potential that NGOs have to facilitate it.

Women have become central to sustainable development efforts. Within academia, public organizations, non-governmental organizations and social groups, there has been a growing interest in the contribution that women make in diverse aspects of society and increasing action to create greater equality among genders (Castillo Ramos 2001). Although this is seen as more difficult in the more traditional rural landscape, a space for *empoderamiento* (empowerment) has been created by women and their allies in the search for alternative livelihood strategies. Notable collaborators in this pursuit are non-governmental organizations (NGOs). These organizations have the potential to analyze rural livelihoods in terms of their sustainability and utilize a framework that focuses on the complex dynamics of capitals and capabilities within this space (Bebbington 1999).

My research focuses on women's home gardens in a Yucatec Maya community and the ways in which an NGO collaborates with the women, the community, and makes viable – though dubious – efforts in sustainable development. What does the project look like in the context of the community? What challenges does the NGO face? Are there pitfalls along the way? Is the sustainable development project likely to be sustainable itself? These are some of the main questions that I attempt to answer through this research.

Methodology

The bulk of this fieldwork took place within the two-month period of December and January, 2009-2010. I also returned briefly in September 2010. Through a series of contacts, I was able to reach the friend of a friend of a friend that was the main environmental consultant working in ejido (communal land holding community) Felipe Carrillo Puerto, a very welcoming individual that embraced the academic purpose of this endeavor. Within the ejido, my contact was working for an NGO to pursue various sustainable development projects, including agroforestry, apiculture, ecotourism, and women home gardens. This was the ideal setting to further investigate NGO-rural community collaborations in alternative development schemes.

Ejido Felipe Carrillo Puerto (FCP) is located in the municipality of Chemax in the Yucatan Peninsula. It is marginalized in every sense of the word, and I knew that conducting fieldwork in this small village would be both challenging and highly rewarding. Further information placing the ejido geographically, culturally, and socially is provided in the second chapter of this thesis. The third chapter focuses on the NGO, Bioasesores. Bioasesores is based in Merida, the capital of Yucatan (where I am from originally) and has been a presence in the small community of roughly one hundred inhabitants for almost six years. The presence of two environmental consultants in particular plays a large role. Their potential is great though their challenges are many. The fourth chapter focuses on the core of this research: women's home gardens as a sustainable development effort. The final chapter provides a constructive criticism for the NGO and future endeavors of this kind.

Of the 28 female participants of the women's home garden project, I was able to thoroughly interview 23 women. Questions centered around history of gardens, the current garden project, future goals, and equality among men and women in the village. A series of 15 questions were asked verbally and the women responded verbally as well. I wrote two notebooks worth of notes, not only incorporating answers and feedback during these interviews, but also daily participatory observation notes. I was welcomed into the home of Doña Clara on my first day. It was not until my second day that I learned she was the president of the women's cooperative. Although I would like to think that this did not play a role in the way that other members of the community viewed me, I believe that there were inherent reasons for people to view me as an authoritative figure. Nonetheless, it was very easy to connect with the women, the children, and also the men of the community. Due to my ambiguous status as 'outsider', the women found a pleasure in teaching me how to make tortillas, the children were amused at my attempts at Yucatec Maya, and the men (though less responsive) were also very cooperative and friendly during my stay.

In conducting this qualitative research, one of the main challenges was language. I was not able to capture all of the conversations around me – including a garden meeting – since I could not understand the language. For interviews that required translation, I was able to solicit the help of Spanish-speaking family members that generously helped translate the answers of their aunts, mothers, or grandmothers. The majority of the interviews were conducted in Spanish since most of the women were able to speak Spanish, although it is their second language.

Another main aspect of this research was photography. Photographs bring the project to life, allowing the reader to visualize the people and the community, and thus describe a place that is tangible. Very few outsiders make the trek to ejido Felipe Carrillo Puerto, a community that lies at the end of a dirt road riddle with potholes. In this way, I hope to somehow bring the community to the reader, and to illustrate the exciting changes that are occurring during the time of this research (and that continue to occur).

I chose to research this topic because, for many years, I have felt that marginalized populations (be they entire communities or factions within them) deserve a greater voice within academia, and the social and public arenas. The area of sustainable natural resource management has also been a great passion of mine for some time, as I feel that our future as a society is largely influenced by the ways in which we use these resources. Together, this is one of the most important issues I believe the world faces today: a society full of inequalities in terms of access to primary resources. By analyzing one small Yucatec Maya community, I hope to make at least a small impact in the ways that these strategies may improve, and offer suggestions for ways in which policy may improve. I hope that this research, which incorporates the issues of marginality – geographic, social, cultural, and economical – will be a glimpse into the dynamic efforts occurring to ameliorate large-scale issues on the grassroots level.

Chapter 2: Site Data

Introduction

In this chapter, the space and place of the collaborative efforts between NGO and community are discussed. The communal land-holding community – or ‘ejido’ – Felipe Carrillo Puerto in Yucatan, Mexico is rich in cultural and biological diversity. This thesis describes the efforts undertaken through the community’s collaboration with a local non-governmental organization (NGO). By examining the community, the NGO (Bioasesores, A.C.), and a women’s garden project, a greater understanding about sustainable development may be obtained. Though the main focus is the garden project, multiple projects are underway as part of an integrative development scheme. Through the eventual elaboration of various projects, participants believe that income from one will help in the maintenance or growth of another. These collaborative efforts are the hope for an improved livelihood in the ejido.

Location & Biodiversity

Named after an ill-fated Yucatan governor who fought for indigenous rights¹, Felipe Carrillo Puerto ejido is a relatively remote ejido in the state of Yucatan (Joseph 1980). Felipe Carrillo Puerto ejido (not to be confused with the tourist city in Quintana Roo of the same name) belongs to the municipality of Chemax (population 24,193) in the state of Yucatan Mexico, approximately 135 miles southeast of the state’s capital, Merida (Figure 1). Its location at the northeastern portion of the peninsula places it within the

¹ Felipe Carrillo Puerto, governor of the state of Yucatan from 1922-1924, was said to be a socialist that fought for indigenous rights, believed in women’s suffrage, and who was assassinated in 1924 by revolutionary forces.

wet forests of Yucatan, just east of the dry Yucatan forests' limits. Thus the dominant ecosystem on the land belonging to the FCP ejido is a semi-deciduous rainforest. The climate can be considered semi-humid with a dry season occurring in the winter and the rainy season in the summer. Water sources, given the limestone karst geomorphology of Yucatan, are limited to *cenotes* (sinkholes), characteristic of the peninsula, and other smaller water sources produced during the rainy season. Within the 18,000 hectares (approximately 44,478 acres) that comprise the ejido is also an abundance of fauna. When it comes to mammals, this region is home to some of the greatest varieties with such emblematic species as the spider monkey (*Ateles geoffroyi*), the jaguar (*Panthera onca*), and the ocelot (*Adolfopardus pardalis*).



Figure 1: Yucatan Peninsula (Google Maps 2009.)

The rich biodiversity and ecosystem of Felipe Carrillo Puerto exemplify its environmental capital. Though natural resources are growingly revered, those that inhabit lands such as FCP are in continual poverty. Mexico, the fourth most biologically diverse nation in the world, is a clear example of a growing tension: rural populations are struggling to achieve economic prosperity while community development efforts are seeking viable options for a sustainable future. The rural landscape of Mexico is embodied in Felipe Carrillo Puerto, an indigenous ejido largely subsisting off the land and its resources while contending with this negotiation of space.

A Maya Ejido

Where this small ejido of roughly 300 reside today was once the home to the well-known Maya civilization. Felipe Carrillo Puerto and the surrounding region was once the territory of one of the most powerful groups whose reign and legacy is evidenced in history books, archaeological remains, tourist attractions, and perhaps of greatest resonance, in the surviving Maya-speaking people themselves. The rural landscapes of Yucatan are riddled with Maya culture and tradition. One manifestation of heritage is in the physical surroundings; little-known archaeological remains abound in Felipe Carrillo Puerto. In the many *cenotes* and caves found on ejido territory are bone and ceramic remains of a distant past. A *sac-beh* ('white road') was recently discovered that dissects the northeastern most 11 km of the ejido. These ancient trading routes were said to connect the major cities of the time. Don Gregorio, a major informant during research and resident of FCP, goes on to say of the *sac-beh*:

When we camp at night [near the sac-beh] sometimes we can hear the ancestors. At night the road flips upside down and you can hear the noise of the carts and

the ancestors traveling on it.

An obvious indicator of a Maya legacy is the continued use of the Maya language. The dialect – one of various Maya dialects – is Yucatec and is the native language of over one million people. Slight variance occurs amongst Maya Yucatec speakers depending on region and there exists no “pure” Maya; a variety of Spanish ‘loanwords’ are incorporated (Montgomery 2004). Nonetheless, the Maya language is a deep-rooted cultural attribute and part of everyday life in the ejido. One of the first household activities witnessed upon arrival to Felipe Carrillo Puerto is the making of tortillas by hand, or *paakach*. An initial question asked to an observant outside woman is: ‘Quieres aprender *paakach*?’ or ‘Do you want to learn how to make tortillas?’ A trickier task than it may seem, once this skill is honed, the women jokingly state that the successful tortilla-maker is ready for marriage. All of this information is enthusiastically shared by Doña Concepción, a mother of 14 children, who knows no Spanish. Doña Concepción sits near her *tres piedras*² methodically flipping tortillas in the small thatched room; her 18-year daughter translates. Traditions, such as that of tortilla-making are intertwined with language. Maize after all, is the origin of humans in the Maya creation myth. Of all the 23 people interviewed throughout fieldwork, traditions cited to be Mayan were mainly Catholic holidays, with the exception of the *chaachak*³. Prayers on Catholic holidays, such as Three Kings Day, are in Maya, indicative of juxtaposition between old and new. A modest yet elaborate display, as seen in Figure 2 with the Three Kings in the foreground, shows the detailed planning behind the celebration, including offerings

² The use of three large stones to keep fire for kitchen cooking purposes

³ Traditional Maya rain ceremony

reminiscent to Mayan offerings to their gods. Throughout the day, men sit in front of the display and pray long and repeated prayers in Maya.



Figure 2: Three Kings Day altar display in FCP, Jan. 6, 2010. (photo by author)

Saturated with Mayan history, this present-day language is a reflection of the past. The people of FCP maintain Maya as their primary language; 95 percent are bilingual (Maya-Spanish), and the remainder are monolingual (Maya). Although it was expected that this rural community is being influenced by nation-state forces to learn Spanish and subsequently lose its Maya language, as in other indigenous language examples, this is not the case (Grenoble and Whaley 1998). Everyone in the community spoke Maya Yucatec fluently. Even the youngest generation grasped the Maya language more easily and fluidly than Spanish. However, the younger generations were more knowledgeable

of the Spanish language, while the eldest members of the community were those with little to no knowledge of Spanish. Bilingual education (Maya-Spanish) was received at the local school house.

The local school, which has existed in the community for 15 years, is the main source of knowledge-acquisition and seen as a way to '*salir adelante*,' or 'get ahead.' Mainly the males are sent to school, or the eldest children that show an interest in studies. The rest only go up to the highest grade offered in the community. The semester of Fall 2009 marked the first time that *secundaria*, or 'middle school,' was offered. This increased the number of teachers from 2 to 3, and meant an increase in educational level. All of the children will attend up to middle school since there is no extra cost in the form of transportation or room and board. Today there is one member of the community pursuing an associate's degree and another pursuing his high school diploma. These are members of a new age of education and mobility, though they are a very small minority. Many women marry at the age of 15-20 and have not studied beyond third or sixth grade. Men tend to marry between 18 and 25, have a slightly higher education level, are far more likely to go beyond schooling offered within the ejido, and are dedicated to *milpa* (small-farm) production and minor animal husbandry.

Productive activities in FCP consist primarily of *milpa* production where the traditional harvest of corn, bean, and squash dominates, though other plants are also present in some *milpas*. The main trio is planted and tended in a polyculture, with a long-term cyclical rotation of slash and burn agriculture. Subsistence strategies are employed and little to no harvest is left for sale, especially in a low harvest season. The average

milpa size is 4 hectares (just under 10 acres). As illustrated in Figure 3, locations of the *milpas* occur predominantly in the northeast portion of the ejido and are located near the residential core of the community (demarcated by the parallelogram). In charge of the *milpas* are the adult males of the household. Though females and younger members participate on occasion in the harvest, the main responsibility of the *milpa* falls on the men. Shucking of the harvest is done by all members, however, and the preparation of the foods – as illustrated in the *paakach* – is reserved for the women.

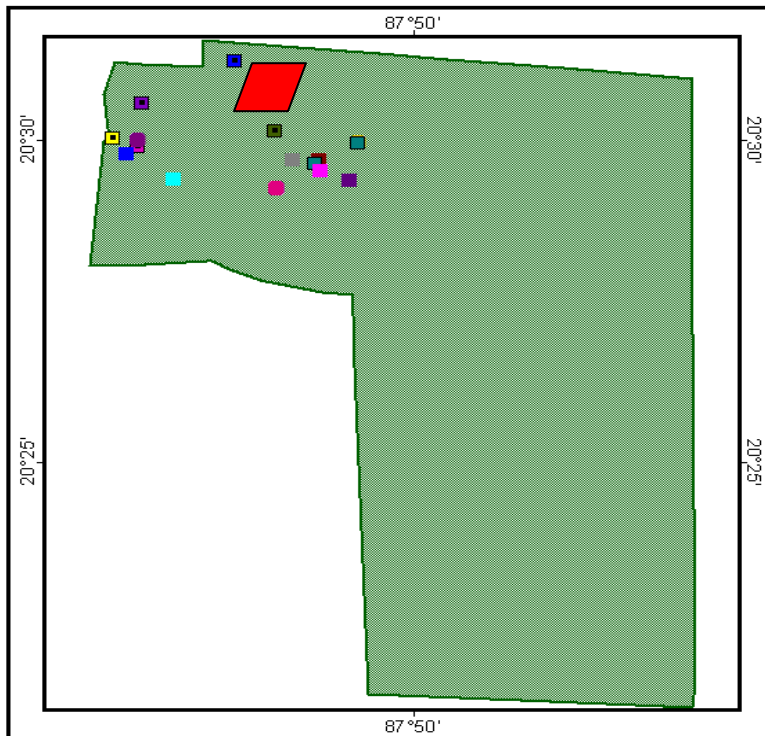


Figure 3: Milpas in FCP. (courtesy of Bioasesores)

Beyond the Milpa

Although the main subsistence strategy in this rural community is the *milpa*, other activities also form avenues of income and define daily activities. One ancestral and

widespread activity in this region is the production of honey. In the Peninsula of Yucatan, rural beekeeping has, for many years, served as a source of auto-employment that generates revenue for the rural family while deepening its connection to the land. Save for 5 of the 33 households, beekeeping is a main activity for the men of FCP. Those that do not own bees claim they do not desire to handle them, either because they became frustrated with previous attempts, or because they compensate through other means of income acquisition. Those that do keep bees have a short three-month pollination season, but take care of them all-year round. According to Don Gregorio, bee populations fluctuate but there is the potential to make up to \$5,000 pesos (\$389 USD) in a week, a relative fortune since this is far more than the average monthly income. “I like to harvest [honey] because I know it brings in money quickly,” explains Don Gregorio. He and his father are two of the many apiculturists in FCP. Don Juan, one of the most respected beekeepers in the community, lists the 6 varieties of trees that render honey – names such as *haabin*, *yaxnik*, *k’unchunub*, *chakah*, and *bohom*. It is apparent that there is a deep knowledge of this practice, and that its ancestral roots continue as part of a subsistence strategy in FCP.

Another popular practice in Felipe Carrillo Puerto is that of minor animal husbandry. About half of the families own some sort of livestock, typically cattle. These have their designated *potreros* (pastureland). Ownership of livestock is a symbol of status and these animals are seen and used as emergency funds. “Here we are working,” says Don Gregorio (leader of the ejido), “but you can see that there is not much money.” Don Adolfo explains that his family once owned 50 head of cattle, but had to sell it all

when his mother became sick. Now they are poor, he says, but he thanks God that his mother finally recovered after a drawn-out illness. Funds received from selling cattle typically go toward emergency health funds, and a few families have used this sale to send children to school. A type of ‘savings account,’ minor animal husbandry is not a lucrative business, but it is a key activity in the lives of the people.

A more recent activity that has taken place over the past couple of decades has been that of migratory work for the men. Several male members of the ejido go to work construction jobs in neighboring Quintana Roo. The destination is typically the tourist cities of Playa del Carmen and Cancun. The former is approximately 115 km (71 mi) east of FCP, and the latter 160 km (99 mi) northeast. Doña Clara explains that her husband, Don Manuel, works an average of 6 months of the year in Playa del Carmen or Cancun, and the other 6 in the *milpa*. “It is with this money that we survive,” she says. Doña Clara’s 22 year-old daughter, Maribel, has recently returned to the community after living in Playa del Carmen for three years with her husband and two small children. Her husband and father have just heard news that a job is available for them in Playa del Carmen the following day. With less than a day’s notice, the two prepare for the trip where they will spend five days away from home. Jobs may require anywhere from a few days at a time to a few months at a time; in the latter case money is sent back to the women and children of the male’s family via extended family or a friend. Don Toni (Maribel’s husband) and Don Manuel awake at 4 am to catch their available ride. Maribel shares her thoughts on her husband’s recent departure and life in the ejido compared to the city:

I am bored with living in the city and where we lived was small; here we have land. What I love the most is planting only that there is no place to do it there so I don't. I want to be here at least a year. When he [her husband] leaves I don't like to be here alone. When he's not here I go with my mom. The kids wake up crying because their dad went to Playa [del Carmen], and that makes me nervous. It's just that since they were born they've been with him. If he goes to Playa, we go with him. That's why they're not use to it. It's the first time that we're separated like this; even he [her husband] left crying. He doesn't like being alone either. That's why he went too, because otherwise my dad would have gone alone. I remember when I was young I didn't even notice that my dad wasn't there, but that's because he's been going off to work since I was very small.

It is apparent that this rural-to-urban temporary job acquisition is not an easy one.

With the growth of tourist cities like those in Quintana Roo, and lack of opportunities for income in the rural communities, men have a sentiment of responsibility to take advantage of these opportunities, despite its effects on the family unit. The rural-to-urban migratory pattern in Mexico, both internal and international, has increased over the last few decades, although international migration has decreased. People in FCP have noted that the *crisis economic* (economic crisis; 2008-2011) is making even these job opportunities difficult to come by. Future plans within the community are to develop ecotourism that would generate jobs *within* the community in hopes to reduce out-migration.

Gendered Space

Pastureland, apiaries, and *milpas* are FCP's major productive activities whose space occupy less than 5,000 of the 18,000 hectares (12,355 of 44,478 acres) of ejido territory and surround the community's residential nucleus (located within the northeastern most portion of the ejido). These activities are also spearheaded by the male population. In effect, this is *their* space; they are responsible for either the productive

success or unproductive shortcomings that result. It is an unspoken rule that the following generation of males will take over responsibility and knowledge of these spaces. Doña Clara, one of the leading women of the community, matter-of-factly explains that her teenage son is now tending to the cattle with his father. There is not one woman that tends to livestock, bees, or is a migrant worker; some women do help harvest in the *milpa*. This is not to say that men are considered superior to women. Of the 23 women interviewed, 20 claimed that there exists equality among men and women in the community. The one woman claimed the two are different because the men receive more *apoyo* (support in the form of financial aid). She says the men receive an income from PROCAMPO⁴. This national program aids the men and their *milpas*, but she does not have a *milpa*, she says, so she does not get the funding. Nonetheless, ‘women and men have equal rights’ was the common response. Many stated that this was not so a decade or two ago when women were not allowed to even go to school, but they claim this is not the case today. Doña Marta, a mother of 5 explains:

Well right now I don’t see it [inequality] but before yes. When I was with my mother-in-law there was a difference but now that I live alone I am teaching my daughters that they are the same...because my mother-in-law says that women do not have the right to study.

She says she wants her daughters to study to support themselves. Her eldest teenage child, Claudia, is living with extended family in a town where middle school was offered, and is now beginning high school. She is one of the few females of her age from FCP going off to school. Doña Ingracia (Don Gregorio’s wife) also has a similar attitude about gender and education:

⁴ PROCAMPO is a national program that aims to increase resources to poor farmers on the countryside.

Well, the man and the woman both have rights. In the past my dad would tell me that women should not study, but he was very traditional. It is good that now the two are the same because now we are equal.

She explains she only reached third grade because her father did not want her to continue school. He said women should stay at home; but she believes a woman has the right to study. “They should work a little now,” she chuckles. Her eldest son is the only family member getting a degree (in gastronomy); “We don’t have a lot of money to send them to school, that’s why,” she says, explaining why her other three teenage children only graduated middle school. It is accepted as more of an economic issue. There is very little money in the community to send *anyone* off to school; however, given the opportunity, males tend to receive the resources to continue studying. The mentality that males have priority in attaining higher levels of education persists, but the idea that women do not deserve to study is dying out. Doña Isabel, 38 years, offers a glimpse into her personal dynamic with her husband: “I see that it is equal. The husbands don’t mistreat the women. I think they work the same. Here with my husband, we are equal, there isn’t one that lectures more, that bosses one out more, we are equal.”

Women’s answers reflected respectful treatment of women by the men, rights, and increasing education. However ‘equal’ this perception may be, there is an obvious difference in access to spaces (such as the example of the woman who cited the *milpa* and PROCAMPO) indicative of a complex relationship between gender and space.

Within this complexity, there are important male and female roles in the community. The sacred *chaachak* ritual that the ejido performs illustrates this. As one of the few ejidos that continues to practice this Maya rain ceremony, FCP residents contrive

an elaborate ritual to honor God so that he may bestow rain upon the crops and bring forth a bountiful harvest for the coming season. Doña Monica (Doña Clara's sister) explains the *k'ol* feast that is prepared by the women. Pozole (a traditional pork dish) is served in various gourds along with large tortillas, a sprinkling of pumpkin seeds, and crosses for decoration. All are placed on wooden tables that are carried off into the field where the ceremony takes place. This space is purely limited to men. Doña Monica says: "I think that it isn't true, but the 'abuelos' say that if the women attend [the ceremony] it doesn't rain...I don't know why, but that's what they say." The women are excluded from this ceremonial space; however, they play an integral role in its execution. When it comes to certain productive spaces, there is only access for the males. This also holds true the other way around. Women are the bearers of future generations, leaders of the Church, skilled artisans, and keepers of the household.

Reminiscent of plants, women are fruitful beings. Experiencing childbirth is a unique attribute that sets women apart, especially in indigenous cultures such as the Maya where the woman is highly linked to nature; the 'God' of corn – from where human life sprang – was in fact, a 'Goddess.' In Felipe Carrillo Puerto, women take on the role of *nah* (mother), caregiver. This is an integral part in the community. The *nah* teaches her daughters *paakach*, household duties, and encourages them to attend school in many modern cases. She encourages her sons to help in household duties at an early age, to help the father in the *milpa* when older, and attend school as much as family resources will allow. The role of the mother is integral since the main priority of those in the community is to prosper and allow their children to get ahead. A current political land

conflict in the ejido involves 6 ejidatarios that have left the core residential area and wish to privatize the ejido, selling off areas to developers. The other 99 ejidatarios, however, do not agree. Despite the possibility of quick profit, there is a consensus that selling off the land would not be a wise choice. The main reason: their children's' future. Doña Ingrid expresses her thoughts on the matter: "I think that they are ambitious, that is why they left. My husband says that they just want to sell to have money. We don't want that because then what are our children going to do?"

The land is seen as *patrimonio* (patrimony) for the children. Doña Isabel echoes this when asked if she wants to sell the ejido: "Oh no, it's for my kids and my grandchildren God willing... because when you sell it is destroyed." Again, the current conflict over land is explicitly said to be important for inheritance, as when Doña Tina voices her opinion about those trying to sell the ejido:

They misbehaved. They started problems in the ejido. We do not like to sell the land, they like to sell the land, that's why they are there. They are family but they changed their attitude. They are destroying the forest. There, there is old trees, but now they destroyed everything beautiful that is here. Hopefully there will be justice. I do not like that they destroyed my lands because it is the patrimony of my children that they destroy."

The children's future is a steady, subtle fuel that keeps this ejido going. The land is intrinsically tied to past, present, and future. The future being of utmost importance, the *nah* and her children have precious roles in the community.

Another area of the FCP that seems to be dominated by women is the Church. Sitting near the center of the residential area of the ejido is a small church (approximately 40 feet by 15 feet) made of tree trunks and palm fronds, decorated with pale blue and

white coats of paint. In front of this building, and adjacent to the peach-colored, recently-built central community building are the remains of a large wall (Figure 4).



Figure 4: Remains of sixteenth century church (right) and central community building. (photo by author)

It is supposedly the remnants of a sixteenth century church that survived the Caste War (Reed 1964). A sharp history of resistance to colonial powers marks this region, and organized religion is crucial evidence. Today, in FCP, everyone considers her or himself Catholic. The women have a group that organizes for prayers and church activities, including CCD (Christian Catholic Doctrine) classes. Within this group is also the church choir where the women practice and sing during mass, songs that they have

learned in Spanish. When ‘Santa Claus’ visited Felipe Carrillo Puerto for the first time during the course of fieldwork⁵, the women were in charge of organizing the welcoming committee and ‘thank you’ lunch on a last-minute notice. The holy place is then a space that is largely managed by women. Although this does not translate into capital as typically envisioned, it is a form of social capital that women embody (Perreault 2003). Moral order and religious stability is attributed to the female, and thus she is a powerful presence in FCP.

Artistic expression is yet another space that is occupied mostly by females in the community. They are skilled artisans when it comes to embroidery, sewing, and crochet. Although there is little to no access to markets for the sale of these products – which are typical attractors for the tourist-oriented region nearby – the women mainly create these clothes for themselves and their children since there are limited resources for purchasing garments. The embroidery work is quite extraordinary. Inexpensive white cotton material is decorated with needle work that depicts scenes from the yard, capturing the multi-colored birds, or the brightly colored flowers in bloom. Depending on the difficulty and scale of the design, these works take anywhere from a few days to a few months to produce. Although there are a couple of men that make hammocks, it is the women who occupy the majority of the artisan scene. When Doña Concepción is asked about her wishes for the future she includes this activity: “I like to work, a lot...and I want to keep planting...and keep sewing.” Before bed this seems to be the pastime in

⁵ A local *parochia* (church) from Merida visited local ejidos in the Chemax municipality offering plastic balls, dolls, and blankets, in exchange for participation in Christian songs and games. One of their members wore a red outfit and white beard; a little girl who had never seen Santa Claus in her life pointed out his missing black belt.

Doña Clara's home; she works on her latest project while her teenage daughter, Luz, works on her crochet skirt. These handicraft skills are potentially lucrative, but there is no easy access to market or strategy at the moment. What *is* clear is that the women enjoy this pastime, are highly skilled, and express wishes to continue with this artistic work.

Just as the artistic realm in Felipe Carrillo Puerto is dominated by women, so is the household space. The typical notion is that the woman is the caretaker of the home. This is definitely played out in FCP. The meals, the cleaning, the maintenance of order in general, all of these are the responsibility of the female of the house. Although there is some help from the husbands, they are generally occupied with tending to the *milpa*, livestock, or bees. Thus, the woman's territory is the home. Before Don Manuel leaves to the *milpa* early in the morning (and before the children answer the school's bell call at 7 am), Doña Clara is up preparing the morning's tortillas over the stove, boiling water for the instant coffee or 'chocomilk' (the two options for breakfast), and cooking eggs from their backyard chickens. The abundance of maize in the community is reflected in the constant *paakach*; tortillas are a staple at every meal, while those that become stale are staples for meals of the backyard birds and dogs. When Doña Clara is done making sure that everyone has gotten her or his breakfast, she eats. The morning chores – with the help of 8-year old Mari and 6-year old Oscar when not in school – are next on the list of daily activities. Seemingly not too far off from breakfast is the preparation of lunch. Again, an abundance of hand-made tortillas are on the menu, and a typical dish of beans or squash; a few times a month, chicken, turkey or pork is prepared. Six year-old Oscar

goes to one of three small ‘stores’ (within the homes of neighbors) and purchases a 2.5 liter bottle of Pepsi for the dinner of leftovers later in the evening. Coca-cola no longer distributes to the remote ejido. “Good thing Pepsi still comes,” exclaims Bertha with a smile, “or else I don’t know what we would do.” There are few herbs and vegetables in the menu, but the mainstays include cilantro and habanero pepper. These two staples have been grown by almost all of the women in the ejido for as long as they can remember. They are typically grown in buckets (Figure 5), hung above the ground to avoid consumption by yard animals.



Figure 5: Bucket Planting. (photo by author).

The cultivation of edible plants and trees in conjunction with small-scale animal husbandry in the surrounding area of a family's house is considered here a 'home garden.' Home gardens have formed an essential part of peasant agricultural systems in Latin America since pre-Columbian times (Nations and Komes 1983; Budowski 1990; Zuria and Gates 2006). In Felipe Carrillo, the home garden has taken the shape of bucket cultivation, chickens and turkeys, and citrus and achiote (annatto) trees. In Figures 6 and 7, Doña Clara is seen soaking maize in the backyard of her home and being shaded by the trees while the turkeys run wild. To the left she is standing in her current cultivation area with raised garden beds. This productive space surrounding the home serves several purposes. Their potential contributions to food security and income have been documented on a global scale (Jimenez-Osorio *et al.* 1999; Nair 2001). They also have been seen as nutritious supplements to other subsystems of production (Niñez 1985) and a potential for energetic sustainability (Alayon-Gamboa 2008). In a place like Yucatan, Mexico, where the highest levels of undernourishment among children are recorded (Cuanalo de la Cerda and Siniarska 2006), the potential of home gardens is significant. With women as the leaders of this productive space, the development of this subsystem is both powerful and empowering.

Felipe Carrillo Puerto's women are currently spearheading a home garden project in collaboration with a non-governmental organization (NGO) from Yucatan's capital, Merida. The NGO will be described in the following chapter.



Figures 6 & 7: Doña Clara at work in her home garden in FCP. (photos by author)

Chapter 3: The NGO

In Mexico, non-governmental organizations (NGOs) take the shape of civil society associations, or *asociaciones civiles*, and these have taken on a large role in the country. An early expression of this organizational move from the people is the 1968 student movement, in which massive repressions from the government sparked various social responses in the form of associations. These types of responses also occurred in 1985 after a slow-moving government left many to organize and either respond directly or demand services of the government after a devastating earthquake. Further, opposition parties' skepticism to president Carlos Salinas de Gortari's election in 1988 left many wanting to organize politically, independently of the government. Mexico's entrance into NAFTA in 1994 and the push for the private sector in a globalization context also created a fertile space for the growth of the third sector, or civil society. These non-governmental organizations, or *asociaciones civiles*, are a very integral link between the people and the government.

The Mexican NGO is non-profit and typically made up of well-educated professionals – as well as lesser trained individuals – that help provide a service of some kind. There are about 30,000 NGOs in Mexico, most of them faith-based, but only 9,000 are registered with the National Institute of Social Development (INDESOL; registration is voluntary). They work in a wide range of areas, from care for the elderly and fighting poverty to promoting education, health and human rights (Godoy 2010). The Mexican NGO takes multiple forms and is dynamic and evolving.

These expressions of civil society range from neighborhood groups to professional associations. In Felipe Carrillo Puerto, the presence of one NGO in particular has been prevalent. Bioasesores, A.C. (Bioconsultants, NGO) is a civil association based out of Yucatan's capital, Merida, located approximately 135 miles from the ejido. The office is a modest-sized two-bedroom, one-story house converted into an office space with the organization's name and slogan on a small sign at the front. The fine print slogan reads: '*Asesoría e innovación para la conservación*' ('Consultancy and innovation for conservation').

Bioasesores was conceived by Claudio and colleagues who had been working in the *Procaduria Agraria* (State Department of Agriculture). Claudio had been working for the State for 14 years prior to making his transition to the non-governmental arena. The concept of Bioasesores began in November, 2003 with Claudio and seven of his associates. When asked why he decided to begin this organization and how he compares working for the government and now an NGO, Claudio insightfully responds:

I was not satisfied with what was going on. It has helped me understand institutional processes like bureaucracy. I have realized that the government, more than wanting to do good, wants to look good. This is why I left, but now I understand...if you challenge the institution you remain challenged...so you have to be very diplomatic.

The mission of Bioasesores, according to the organization, is to obtain effective sustainable development and simultaneous conservation through their work. The general activities that constitute their work include short-term technical assistance, long-term follow-up, *capacitación* (capacity-building) workshops, and management assistance to groups or organizations related to sustainable development. These broad strategies are

utilized to address the extensive issue of rural sustainable development in the Yucatan region, and specifically to tackle the complex issues related to community-based natural resource management and the commercialization of products from the rural landscape. The main projects (some that have already concluded) that have been undertaken in the relatively short lifespan of the organization include:

- Ecotourism for conservation in the State Reserve of Palmar
- Ecotourism in the Akanchen Ranch, Rio Lagartos
- *Unidades de Manejo* (Wildlife Management Units⁶)
- Reforestation
- Commercialization of rural, indigenous community-produced products
- Mapping of forested area in Yucatan
- Ecotourism in Progreso, Yucatan
- Sustainable development projects in Felipe Carrillo Puerto ejido

These various projects are spearheaded by one or two representatives of Bioasesores' current staff of eight. While the extent of their work seems broad, the main objectives remain centrally focused on rural sustainable development in the region. Efforts from one project may help in another. The heart of this study is the development work being conducted within the Felipe Carrillo Puerto ejido. Involvement in FCP began with the presence of Alberto, whose initial fieldwork in the ejido in 2004 pioneered development studies within the community. Work relating to the municipality of Chemax is scarce, let alone works relating to one of the small ejidos – like FCP – that

⁶ *Unidad de Manejo* is a legal status for the conservation of a given area; comparable to a biological preserve in the United States

comprise it. The development work conducted in the past years in the ejido is briefly overviewed in its chronological order, allowing a clearer picture of the development that has led up to today's current projects, specifically the women's home garden project.

Beginning a Record

What characterizes Felipe Carrillo Puerto ejido? How is the space utilized? Who lives here and what are the main subsistence strategies? These basic questions were the foundation of the research conducted at the beginning of the Bioasesores development work in FCP. The relationship between the ejido and Bioasesores began in 2005, and marked the commencement of a “process of management, planning, empowerment, training, and organizing for the sustainable management of their own lands” (Bioasesores Eco-Index 2008). This involvement has come from the apparent necessity to increase sources of income, and the viable option of doing so via sustainable use of their natural resources. One of the initial actions that took place between the community and the NGO was the establishment of a legally registered Management Unit for Conservation and Sustainable Use of Wildlife (*Unidad de Manejo* – UMA). After the dissemination of information (by Alberto Mijangos in various informal meetings while visiting the ejido and establishing rapport with the people) on the definition of this legal term and its implications, the ejido assembly decided to dedicate 100 hectares (approx. 247 acres) of ejido land to the establishment of an *Unidad de Manejo*.

In 1997 the Ministry of Environment and Natural Resources (SEMARNAT in Spanish) launched a policy to stimulate the establishment of UMAs with the intention of promoting wildlife management, biodiversity conservation, and rural development in

Mexico (Weber et al. 2006). Mexico is biologically diverse – particularly in this region – and thus is an area of increased concern for various stakeholders. Over the years, UMAs in Mexico have expanded greatly and now comprise an area greater than the national system of protected areas (SEMARNAT 2011). This growth has occurred particularly in the rural landscapes of the poor, indigenous farmers.

Although only representative of about 5 percent of the Earth's human population, indigenous people inhabit approximately 85 percent of Earth's protected areas (Alcorn 2000). There is an undeniably strong link between indigenous groups and the land. Relatively recent ethnoecological studies show that indigenous land management systems have been sustainable over long periods of time. This is due in part to their adaptability to political, economic and environmental uncertainties; their flexibility to change, allowing for partial adoption of innovations; and the development of strategies that maximize land use in space and time via diversification of crops and practices, while minimizing the use of external inputs (Denniston 1995; Berkes 1999; Denevan 2001). Felipe Carrillo Puerto and their natural resource management strategies are exemplary of these traditional, rural, and marginalized world communities. Through adoption of UMAs, FCP further revealed to Bioasesores their potential for adaptability and flexibility.

With a potential to gain profit from this environmental venture, the impoverished town of FCP embarked on a long-term objective to manage this unit of land within the framework of conservation. Income generation in UMAs comes from the use of extractive as well as non-extractive resources, and a management plan is to be approved

by a regional SEMARNAT office under law. Extraction refers to the extraction by individuals and only is allowed if population studies exist to determine harvest rates. This is not an activity currently occurring in FCP due to the lack of these studies. Non-extractive uses (ecotourism, research, environmental education, and nature photography), however are taking place. Given the potential in the ejido to realize this, there is a drive to perform the non-extractive uses, as well as other activities (such as agroforestry) beyond the UMA.

Several pre-existing factors in the community showed enough promise, according to Bioasesores, to make a viable long-term, sustainable development scheme. The abundance of *cenotes* (Figure 8) on ejido land has helped make the UMA an area of great



Figure 8: Underground *cenote* in FCP. (photo by author)

ecotouristic potential. Two *cenotes* in particular have been identified as the main source of ecotouristic potential. They are known to the community, and the few outsiders that have had the opportunity to visit, as *Pak'chen* and *San Pedro*. The first takes about an hour and a half to reach by foot. Via a pathway that some of the men of the community made using machetes. It is not wide enough to fit more than one individual, making the trek to the lush waterhole a single-file journey. The second *cenote* is one that is now the home to the 'invaders.' As briefly mentioned previously, political conflict over territory has caused six of the *ejidatarios* and their families to leave the core residential area of the ejido; they have taken up residence in the area further in the interior of the ejido known as San Pedro. As such, ecotouristic plans have been suspended pending judicial sentencing and verdicts. Legal counsels say that the indiscretions of the small group of people who moved to San Pedro will be punished. There is a legacy of corruption in the region and some of the people in the ejido fear that a corrupt ruling will take place.

Maribel explains:

I'm scared because one that invaded the ejido said that if they lost in court that they would come kill the Comisario and Secretary...because they are working with businessmen and people with money. We've heard rumors that with money they are going to win and buy the judge off.

Nonetheless, there exists a general sense of hope because a large majority does not want to sell off the land. There is an inability to determine the effect that change agents – who have promoted sustainable use – have had on the attitudes of the people, but there *is* a clear wish to keep the land, and a resounding desire to keep it as patrimony for their children.

The entire community has shared in work days where they clean up the area surrounding the *cenote*. With machetes, the overgrowth is cleared off so that there is better walking space for future visitors. There have been various work days when a group of men have rallied – under the direction of a change agent affiliated with the NGO – to create an impressive staircase leading to the *cenote*. This staircase is made with large stones that the men hauled and arranged methodically (Figure 8). These group efforts are yet another strategy that the community has used – in collaboration with the NGO – to execute projects. This strategy has been used time and again; a reflection of the relatively collective spirit that still lives in the ejido. While their neighbors to the east have sold off coastal land to developers (at Cancun and Playa del Carmen), they are responding to external economic pressures with alternative strategies.

Subsequent to creating the UMA, the community and the NGO have focused on the diversification of productive forest spaces. A scheme was created in 2007 to demarcate land for a permanent forest reserve. Land-holders took a vote and decided on creating a permanent forest reserve encompassing 10.383 hectares (approx 25.5 acres). The NGO's vision for this area was to apply for grants that would generate funding to allow for projects that would not only influence the physical landscape, but also the cultural landscape of the community. These projects included:

- Acquisition of apiculture equipment and workshops
- 'In'ka'ax' Summer Work Camps
- Develop a three-year plan for land organization and inventory
- Preservation of local, indigenous celebrations and ceremonies

- Construction of 28 wood-saving ovens

Although this was the initial plan, it is essential to note that not all the projects have taken off as intended. Others evolved unexpectedly. The original plans were largely posed by the NGO. The individual representative of the NGO largely in charge of this sustainable development scheme received community feedback throughout the years of these projects. Those that dominated a given space in the community were given a larger role to play in the development of given projects. Here I will briefly go over the main projects, leading to the focus on the space occupied by the women. The women's role in Felipe Carrillo Puerto is integral within this evolving landscape; the vision of the ovens grew and evolved into home garden spaces.

Apiculture

A large part of the income-generation that occurs for many families in FCP is honey-production, or apiculture. Beekeeping is a Maya tradition practiced for generations and a complex – and sometimes painful – art. Some of the honey varieties that are produced in the area are unique in the world. True honey connoisseurs would tell right away that the product offered by FCP, like many Maya ejidos, is high quality. Nonetheless, there is much room for improvement when it comes to efficiency, increased knowledge, and market access. The change agent has identified this potential and focused a great deal on ways to increase the capacity of this valuable natural resource. As a result, the NGO has connected the community to a regional organization that focuses only on apiculture and aids those who can benefit from supplies and workshops.

There are high hopes for the benefit of apiculture on the community. For instance, since the sale of honey is a more lucrative business⁷, the future honey sales may potentially serve to invest in other community projects. The savings rendered from these other projects may go back into the project, the honey production, or other fund-redirected decided upon by the ejido. This holistic endeavor is a key strategy identified in Felipe Carrillo Puerto (FCP), though its elaboration is still taking root.

'In Ka'ax' Summer Work Camps

'In Ka'ax, ' is 'the jungle' in Maya. In the summer of 2008, the NGO introduced a work team of various volunteers made up of students, alumni, or simply interested people willing to give their time to the community and delve into the surrounding jungle to help clear paths, inventory species, and gain first-hand experience from one of the most lush Mayan forest areas found on the Yucatan. Not only did this venture provide an increased inventory of the local ecosystems, but it also provided an opportunity for people of the ejido to bond with 'outsiders.' Some members of the volunteer team came from Europe, others from Mexican cities. During the excursion, the roughly twenty participants stayed for a month in the community. Though camping occurred on some nights, some of the people of the community opened their homes for the first time to strangers. Those that did so were paid a sum for the nights they housed and fed the visitors. Each participant paid the equivalent of 400 USD to transport them to and from Merida (about three hours away), provide basic equipment, and provide room and board.

⁷ "Mexico ranks sixth in honey production," *Mexico Business Web*, June 29, 2011, <http://www.mexicanbusinessweb.com/noticias/estados.phtml?id=6262>

This is not to mention the “unforgettable experience of exploring some of the lushest Mayan jungle in the Yucatan” (Bioasesores, A.C. Blogspot 2008).

Bioasesores created a very typical ecotouristic scenario in which those that visited the community would learn experientially of the culture and ecology, while also providing a foundation for future research through such time-consuming tasks as taking inventory of species and performing surveys of the community members, all the while providing a convenient sum of money to go to those directive leaders and the community members who opened their homes. The actual distribution of the money is unknown.

Land Organization and Inventory

As in the summer camps, much of this project included the creation of ecotouristic possibilities. The first goal is was to make a map; from this foundation they would be able to launch further projects. There are few maps that cover the ejido of Felipe Carrillo Puerto. Bioasesores is thus a pioneer in creating cartography here. Chemax – the municipality in which FCP is found – has been mapped in Figure 1, but there is no indication of the various Mayan communities that surround it. Many of these communities have very minute residential and productive zones in comparison to the area of their land belonging to their respective ejido. Felipe Carrillo Puerto only utilizes a fraction of their land, as seen in the map in Figure 9 produced by Bioasesores. In the unmarked area – the large rectangular portion of the ejido comprising roughly 40,000 acres – is an area still uncharted. Just before this research began, a discovery was made in the interior portion of the ejido. While out hunting, Don Gregorio stumbled upon

overgrown remnants of a Mayan city. He brought his father and brother-in-law back to the spot following his discovery. He then told the change agent of Bioasesores. This discovery was immediately included in future plans for the ejido; there is still talk of (and grant writing for) a local museum. When the ‘gringos’ come, this would be one other attraction. For archaeologists, this undiscovered – and highly intact – area of Mayan activity from long ago may provide greater historical knowledge of this zone.

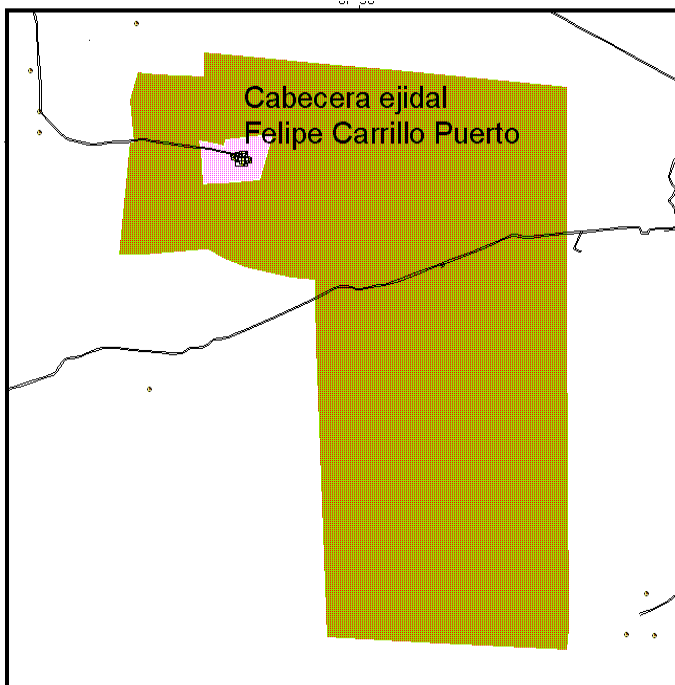


Figure 9: Residential nucleus of FCP (courtesy of Bioasesores)

Also discovered in the jungles of FCP have been the *sac beh*, or white road: a remarkable trading path that once gave way to merchants and travelers. Of the most influential discoveries to date – and great focus of the communities efforts with the NGO – are the sparkling blue, lush *cenotes*. “Hopefully the *cenote* project will work, and the gringos will come, and we will be able to sell our work,” says Doña Ingracia. She says

she was told this by the environmental consultant of Bioasesores; this is her answer to the question posed in this study of what her future plans will be. The discoveries of the land have launched a great deal of ideas and prospects for development projects. Focus on the land and its resources have led to various grants for conservation. Doña Ingrid and others, in the recent years' work with the NGO, have begun what is essential for the growing role of the women in the conservation of land and culture of the ejido.

Preservation of Ceremonies and Celebrations

With all the discoveries and the ambitious projects led by two main environmental consultants of the NGO, there has been little effort in this area. The ejido has a variety of traditional Maya ceremonies, such as the *chaachak*, that are growing less prominent. Promotion of cultural pride for the younger generations – especially in the face of developmental change – is important, thus this goal is worth exploring in the future.

Wood-Saving Ovens

The first main project prior to the home gardens was one related to wood-saving ovens. This precedent helped pave the way for the possibility of other projects, but also foreshadowed some future unsustainable patterns of development behavior to come.

The main method of cooking utilized for many generations is shown in Figure 10 and is called the *tres piedras* (three rocks) method. The ancient Maya utilized this hearth method; the triangular three-stone cooking mechanism was found at the center of the household as early as 1000 B.C. (Schele and Mathews 1998). Women prepared all the cooking here while the men went out to work in the fields growing corn, bean, squash

and chile as well as fruit-bearing trees around the household (Schele and Mathews 1998). Not much has changed. This is the typical pattern seen in Felipe Carrillo Puerto. Some of the *tres piedras* are set up outside, while the majority are inside make-shift *palapa* (palm shelter) kitchen spaces. This open fire with no ventilation has had various negative impacts on the community. Though health exams – particularly dealing with lung problems – have not been conducted in the community, there is strong evidence that this method is detrimental to the health of the women and also the children of the community. The main detrimental effects include:

- Extensive burns of children playing around fire
- Expansive amount of respiratory illnesses
- Inefficient use of wood resources, often a factor in deforestation



Figure 10: *Tres Piedras*, Three Rocks method of cooking. (photo by author)

During a lunch at Doña Ingracia's home, she skillfully makes the tortillas over the flames of the *tres piedras*. The corner of the kitchen where she is hunched down over the fire is dark black; the wood poles appear charred. She has hunched over the three rocks her entire life for large parts of the day, as she is responsible for every meal. While she is preparing lunch, I interview her; I ask what she knows about Bioasesores, and what her opinion is about them. "They [Bioasesores] are the ones that give meetings here, it is very good because they've gotten wood-saving ovens, now the garden. It is very good." I ask if she uses the relatively new oven (completed approximately six months prior to the interview), and she answers 'yes.' She says she uses it to make tortillas, but mostly cooks with the 'tres piedras.' Doña Ingracia was making tortillas with the *tres piedras* at the time.

Doña Concepción, 58 and mother of 14, also sits in her hammock during our interview. She is a large woman with a powerful presence; she is well-respected in the community. Doña Concepción only speaks Mayan and her daughter Ana helps as the interpreter. I ask how women projects began in her view. She explains that Jorge arrived one day in the ejido and asked to speak to the women. Through word of mouth the women gathered in the central building a little later. Jorge asked what they wanted to develop and offered options such as the ovens, a small pig farm and the garden. The women chose the ovens first and then the gardens. I ask why the ovens were chosen first and she answers in a somewhat canned response: "For health and to save the trouble of getting so much wood for the fire, and because you can heat water at the same time; the old way with three rocks affected health, and kids can get burned." – Why *huertos*

(gardens) second? – “Better than raising pigs or chickens because you need to feed them, but with the *huertos* you just grow more with seeds.” When invited to eat a meal with Doña Concepción and her family subsequent to the interview, she is sitting in her *palapa* kitchen, low to the ground, busily making tortillas over the *tres piedras*.

Doña Marta, in her late twenties and mother of four, sits outside her garden with me to patiently answer my questions. One of my questions is if the garden project is a lot of work. She answers:

Yes, we had a lot of work but we told ourselves that we were committed with Jorge and we had to do it. We did it too with the ovens. Jorge bought everything, he sees how to get it (materials) and bring it here. First it was the ovens, he told us that was the project that worked out and then he gave us options and we did the gardens.

It is not clear whether the women chose to do ovens or whether they were assigned the oven project since answers varied amongst the women. Some say they were given a choice with both projects (oven and garden), some say they were offered ovens and later given a choice for the gardens, while others insinuate a great deal of influence in choosing both. I asked Jorge how his process for the ovens (and later gardens) actually worked out. He says he chose the ovens project for the women since it was the most feasible in terms of grant opportunities. He explains that the women’s projects were part of an annual grant offered by the SEMARNAT as part of their program entitled “Towards gender equality and sustainability of natural resources, 2007-2012.” Each year there is an opportunity to apply for a grant that would enable a woman-led project to occur that focuses on women’s empowerment and sustainable development. Jorge chose the ovens first. Second they were granted help with gardens. Finally they were granted aid for a sustainable local bakery. The name on the grants was not Bioasosores, but the women’s

cooperative of Felipe Carrillo Puerto. However, the presence of Jorge began with the NGO, and thus its effects are on-going.

During the construction portion of the oven project, the women received a lot of help from the men. They labored together to reach the final product. When speaking with Don Toni, he explains that the men help with all the projects, that it is necessary for the community that the men help and put in their “hundred and ten percent” effort. The men are a big help in the construction of the garden project as well. They are a very important labor source throughout all aspects of the community, but this is not to undermine the role of the women. The women are the leaders of the project; they are the ones who must choose to participate (all the projects are voluntary), they must also be the ones to attend the workshops, listen to and – often times – disseminate this information to others, including their husbands. Doña Concepción is able to tell her family members of the reasons for having wood-saving ovens: using less wood and therefore decreasing deforestation rates in the surrounding jungle, avoiding the inhalation of dangerous fumes, decreasing the likelihood of burns from the women or children playing nearby, and so forth. It is also up to the women to put the project’s end result in use.

One of the resounding patterns that I witnessed during the course of this interview is the continual use of the *tres piedras* in the community. Various women still use this method. Even the women’s church group – when preparing meals for the school children or guests to the community – still used the *tres piedras*. It is a long-standing method and it seems that, although the intentions behind the project are positive, the actual implementation of a new way is difficult. Cooking is an integral part of the women’s

daily lives and it seems as though old traditions are difficult to change. Women know the dangers that the old method poses. For instance, time and again children are burned by the open flames. During the course of this fieldwork, a little boy was badly burned on one of his legs when playing too close to the fire. Since medical assistance is hard to come by, the mother relied on medicinal plants to treat his wounds. His leg was mostly covered in what looked to be first and second degree burns, unfortunately it is not an unusual occurrence around the *tres piedras*. Nonetheless, there are a few women who now rely predominantly on the new wood-saving ovens. Doña Clara and Maribel, two main informants of this study, were those that relied only on the new ovens. No longer do they utilize the *tres piedras*. I asked Maribel why she thought other women still used the old method and she answered: "Who knows why. I think it is because they're too lazy to stand up. I prefer the ovens because you don't burn your feet, your arms. It's a shame what they do, it's the poor kids that pay the consequences." Figures 11 and 12 show Maribel's little brother, Oscar, sitting next to the family's wood-saving oven.



Figures 11 & 12: Oscar sitting next to wood-saving oven (left); top of wood-saving oven (right). (photos by author)

In order to create the gardens, the women promised Jorge they would use the ovens, but the majority is not using them. There has been no follow-up to this project and Jorge was unaware of the disuse. Despite the broken promises, the garden project was the following venture for the women. Here, the women that chose to participate again utilized a space in the community that they already dominated: their yards. The garden project helps give a snapshot of what rural, ‘sustainable’ development in ejido Felipe Carillo Puerto looks like today. Women pursue, in collaboration with the NGO, a strategy that helps maintain to some extent their homeland in the face of external forces, but also illustrates various warning signs of a project that may not last.

Chapter 4: Women and their Garden

Although it is only approximately 25 km (15.5 mi) from Chemax, the trip to Felipe Carrillo Puerto takes almost an hour. It is the fourth – and last – Mayan village on the small, unkempt road. The effect of the large potholes on our mid-size car is too great, but luckily we are not the only ones in sight. About seven potholes ahead is the *chachara* (scrap metal) truck. About once a month this dilapidated truck makes its way through the villages purchasing *chachara* from the people. I signal to the truck and run ahead to ask the favor of riding into town in their larger vehicle. I grab my bags and hop on. As one arrives to FCP, a few of the people in the village's houses greet the passersby. I am a definite oddity, standing in the back of the large truck. We circle around the center square – the central gathering space of the community – and the *chachara* driver drops me off at the house I was invited to stay in when I first arrived at FCP. It is the house of Doña Clara and Don Manuel. Oscar, their youngest son, is waiting diligently until it is his turn to exchange his *chachara* for pesos. The precocious 8 year-old had been accumulating scrap metal for quite some time; copper is worth far more, so he managed to machete it off from an old engine as his little cousin looked on (Figure 13). Doña Clara's house is located at the opposite end of the entrance road near a corner of the central square. There are 33 houses in the village. It is at the dead end of a road built 15 years ago with no maintenance since its creation. The house is a cement block home built about a year ago. A government program to improve living conditions in impoverished rural towns of the region reached the community. As with many government programs, the community members are entrusted with the primary materials

for construction. Accounts from community leaders state these materials sometimes do not make it all the way to the village; they are illegally sold by those employed to distributors, or sold by the people instead of utilizing them for construction. Nonetheless, Doña Clara and her family share a small rectangular block home. Colorful hammocks line the walls when walking through. The small kitchen in the back is from the original home made of large stones and tree branches. This small kitchen makes way to the backyard; a treasure trove of life as well as new and past traditions (Christie 2008).



Figure 13: Eight year-old Oscar using a machete to accumulate scrap metal while little cousin looks on. (photo by author)

Caution should be exercised when wandering through the backyard of Doña Clara. Tree roots are exposed, branches litter the floor, rotting citrus, an old dirty ball...all of these along with the myriad of avian varieties, dogs, and cats. The small stone kitchen in the back of the block home (a narrow, rectangular room that houses seven via continuous hanging hammocks) has an entryway to this versatile yard. Oscar runs barefoot and carefree, either missing the thousands of rocks, or most-likely immune to their effects. Behind the sporadic trees, before reaching the dense Mayan jungle, is a very pronounced landmark: a shiny metal fence. A landscape combining natural construction materials (wood and stone) with more modern ones (concrete and processed metals) highlights the continual development of this Mayan community.

The shiny metal fence is a new addition to the backyard of Doña Clara along with the yards of the 28 other women in Felipe Carrillo Puerto. As you wander back and find the entrance to the square fenced plot, you discover raised garden beds, compost piles, and the overall fruition of a Maya woman's home garden. It is here where the heart of this study lies.

Design

The design utilized by the development project in Felipe Carrillo Puerto is taken from a handbook for Chiapas women's home gardens. Jorge, as the environmental consultant, made this decision because he thought it would be easily applicable given the supposedly similar ecology and culture of the two regions. Figures 14 (aerial view) and 15 (side views) illustrate the designs adapted and modified for use in FCP.

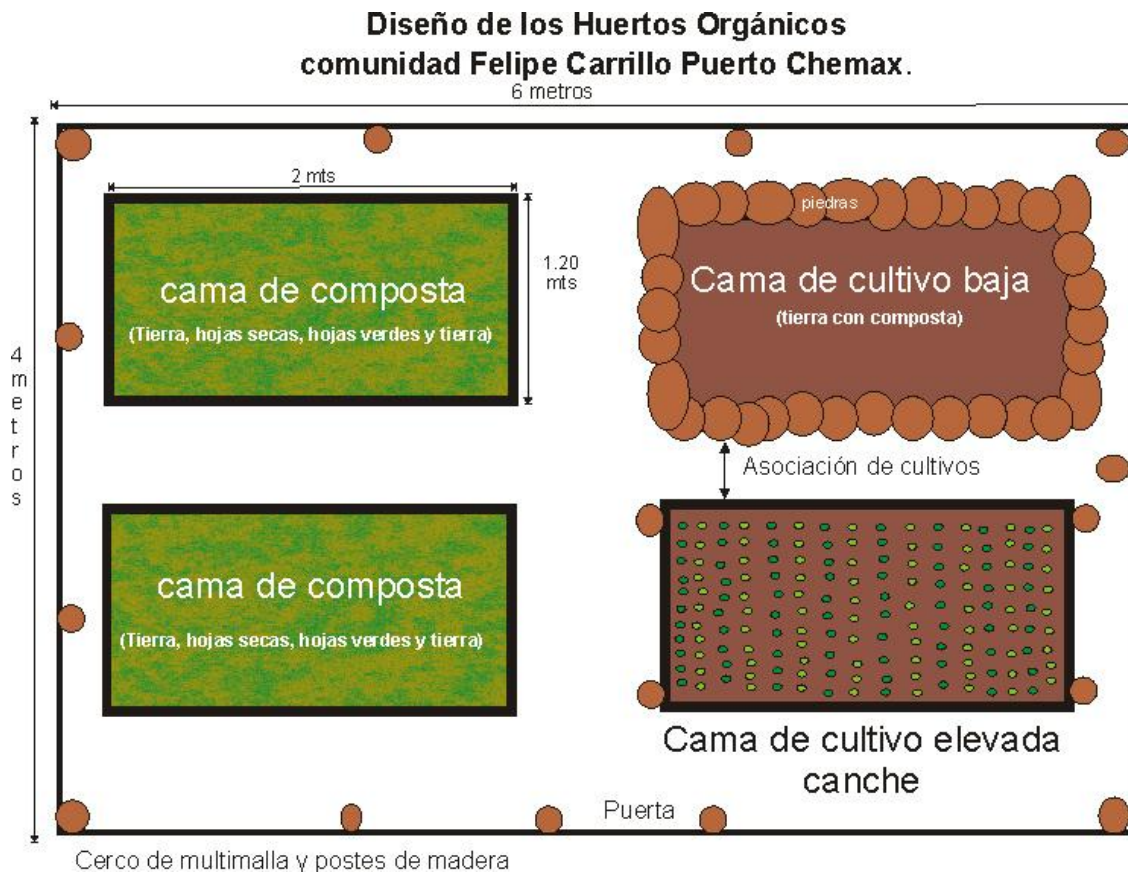


Figure 14: Aerial view of home garden design in FCP. (courtesy of Bioasesores)

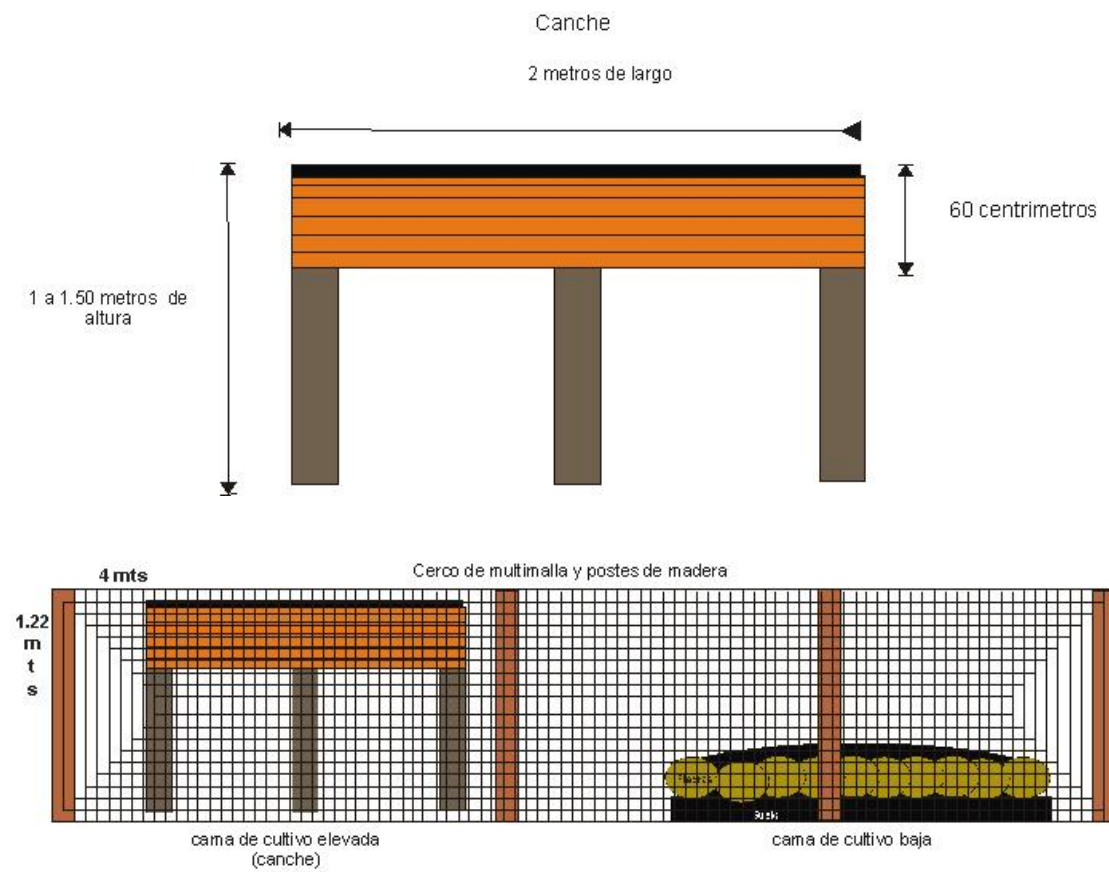


Figure 15. Side views of home garden in FCP. (courtesy of Bioasesores)



Figure 16: Entrance of a home garden in Felipe Carrillo Puerto. (photo by author)

Figure 16 illustrates the appearance of a typical home garden in Felipe Carrillo Puerto. Many of the women cited the fencing as a positive attribute. It is a welcome addition to the appearance of their yards. However, it should be noted that not all women participated in the garden project. Many that did not participate did not meet the requirements of participation (i.e. being married).

Individuality and Independence

One of the prevailing themes throughout the design of the garden project is individuality. All women made use of the metal fencing, and some chose to expand upon it by utilizing the *kolox'che* (wood fencing) as an entrance or an entire side. This

provided for increased area for the garden and an opportunity to increase yield. With the variety of animals running through the yard, the protective fencing and its expansion are much welcome. Figure 17 is an example of one woman who chose to make the doorway to her home garden out of *kolox'che*. Her design is innovative; however it is a tough squeeze to crawl through even when some of the branches are removed to make entry possible.



Figure 17: Woman with a *kolox'che* (wooden fence) extension as an entrance to her garden. (photo by author)

In various homes, the fencing provided by the project is managed so as to include all adjacent family members. The extended family is a main source of support – both social and financial – in the community. These families tend to live adjacent to one another facilitating the combination of home gardens. In one backyard, mother, daughter, and daughter-in-law combine their fencing to make one large home garden, reminiscent of a community garden (Figure 18). The women seem to motivate each other and serve as an accountability source for one another. As Doña Marta confides, “my mother-in-law works on it (the garden) a lot, and reminds us to water.” Those women that shared garden space with family members tended to have more lively gardens, producing visibly higher yields. Not all families shared fencing. This is not to say that individual gardens were always less fruitful; some women were very engaged in their relatively small garden plot and were producing successfully. Of the twenty three women interviewed, there were three groups of families that shared their garden space with their daughter, mother, mother-in-law, sister or sister-in-law. These kinship bonds are evident in all facets of the community and have permeated into the garden project life for some women. Quite notable is the initial proposal of one large, community garden in FCP. The people opted to go with individual gardens (with the option of combining with relatives). There is a strong sense of community in the village, but there is a growing sense of individuality and independence, even within extended families.



Figure 18: Mother, daughter, and daughter-in-law combine project fencing to make a large garden space. (photo by author)

The preference for individual gardens in lieu of a community garden reflects an attitude of independence amongst the village households. While most productive activities are very familial, the home garden is strictly the responsibility of the woman of the household. Each woman who signed up with the project receives her portion of supplies, but also her portion of sole accountability for her garden. Doña Clara and her oldest daughter Maribel (who is married) each have their own home gardens in their respective yards. A large plot of beans is planted in Maribel's yard just next to the fenced *ka'anche* (above-ground garden beds). Doña Clara, her husband, and sons as well as Maribel and her husband participate in the harvesting process. The removal of beans from their pods is even more inclusive, where little Oscar also participates. Most

extended family members help each other with the harvests spanning a few acres. Although there is help with the initial construction of the garden infrastructure (i.e. chopping and transporting wood for the *ka'anche*), women take on the responsibility of the care and maintenance of the cultivated plants. Maribel is very proud of her garden. When asked what her plans for the future are she responds, "I want to be here. I like it, it's calm and here we have land. What I love the most is planting and I can do that here." She proudly points out the seedlings she has just transplanted into the garden bed. She explains that these particular plants require starting off in a seed starter before being transplanted into the larger *ka'anche*. She seems excited to share this information and to be the sole person in charge of her garden plot.

The design of the garden project took shape with the wishes of the women. A community garden was not a desire and so the portioning off of materials⁸ for individual plots occurred. While some families joined forces to make a larger garden plot, others maintained their own plot alone. Each woman expressed her view of how the garden should look, veering off to a certain extent from the model that was provided for them by the NGO. In one home, a woman constructed two small, raised garden beds from the ground, elevating the soil. This was not part of the NGO's model – as verified with Jorge and his workshop material – and a clear example of individuality. A sense of ownership and pride is visible amongst various interviewed women, including Doña Margarita – creator of the raised garden bed – who says of the garden she shares with her sister-in-

⁸ The materials that each woman received for her garden plot included: fencing, cement, posts, some soil, seeds, tea, containers for tea, watering cans, and transplant containers.

law: “Every time I come here I’m happy to see how the plants grow and I like to plant them.”

Seeds

The seeds that were introduced into the community by Jorge are listed in Appendix A. Not all women received the same seeds to plant. Each woman received two main plant varieties that grow well together. The distribution of seeds in terms of companion planting can be found in Appendix B. The seeds that were distributed to various households were those for native flowers. Jorge explained that the idea behind not allowing for the same plants to be grown in every household was to encourage a bartering community amongst the women. A woman who grew radishes and greens could trade with her neighbor for the onions and beets she had been growing, and so forth. Jorge explained the design and this characteristic of the project to the women via a simplified PowerPoint presentation equipped with pictures of what the garden was to look like. Among the concepts he explained in workshops was this idea of a trade system within the community. Although the women acknowledged their understanding of this theory, its implementations were not so prevalent.

“We were supposed to exchange harvest like Jorge told us, but some women are selling their food, like the radishes,” recounts Doña Isabel. While none of the 23 women interviewed admitted to trying to sell her harvest, multiple women accused others of going against the project guidelines and selling, rather than trading, their garden produce. Jorge’s reaction was one of vague surprise, but also understanding. “You introduce an idea, a project, and ultimately it is up to the women to decide how they are going to do it.

Who am I to tell them how to live?” he says. Although he lays down the foundational work of the project, he allows for its implementation to take place somewhat organically. While he is there to encourage and motivate throughout the project’s duration, his physical presence is not always necessary.

This research was conducted at the beginning stages of the garden project. The task that the women had been given by Jorge was to complete the infrastructure of the garden design (Figures 14 and 15) by the time that Jorge returned, at the latest. He was to be gone from the community for a period of approximately two months, and upon return, would inspect the status of each woman’s garden. Doña Marta shares this with me in our interview:

I had one [garden] in other spot but I abandoned it when the seed ran out and did not begin again until Jorge arrived and said he was going to give us gardens again. Jorge showed us on his computer and at Doña Clara’s house how to make them [ka’anches] and left us the homework of doing them so that when he gets back in January we have them made already; but some (women) still haven’t finished.



Figure 19: Don Manuel and Ricardo in the construction phase of the garden project. (photo provided to the author by an informant who wishes to remain anonymous)

Doña Clara had various managerial roles. As president of the women's cooperative, she is also the leader of the project and the woman in charge of distributing fencing and seeds in the absence of Jorge. As discussed in chapter five, Doña Clara's appointment to president was done by the environmental consultants; she was not elected by the women. This has the potential to resurface as a negative issue for the project.

The construction of the gardens happened in increments. The first task was to make the area where they wanted their garden plot available. With the help of their husbands and male family members, the women were to use either large stones or wood

to construct the ground level garden beds. In Figure 19, Don Manuel and his eldest son, Ricardo, help their wives construct the garden infrastructure.

After much gathering of wood, the *ka'anches* were constructed. Once these garden beds were in place with their proper amount of soil, they would go to Doña Clara. Doña Monica jokingly remarks as her 72 year-old father is loading dirt onto the *ka'anche*, “That little old man sure can work.” Doña Clara would then inspect their garden and if they had followed the steps, she would distribute the prized fencing so that they may corral their garden to their liking as well as the seeds that were listed under that woman’s name. This is a lot of responsibility to fall under one individual, and problems did not take long to surface.

One main issue was *chisme*, or gossip, a common occurrence in small villages. “*Pueblo chico, infierno grande*,” (Small town, large hell) is a common saying that some of the community members have affirmed. During this research, Alberto had to mediate a conflict. He says that ‘chisme’ is a recurring problem in the village. There is a lot of hearsay with little evidence to back it up. This proved to be debilitating for the garden project and is further explored in the chapter five.

Gardening History

During this research, it was confirmed that home gardens have had a long-time presence in this community. Almost every single woman that I interviewed stated that they have had a home garden prior to the garden they are working on with Jorge. Doña Chela said (in her somewhat broken Spanish): “Oh, I have always had a garden but

before in another place, on the ground. Now it is better because we have seeds for everything. Before just cilantro, habanero, and mint.”

Doña Concepción echoes the long-time use of the garden and points out another of the project’s benefits:

I have always had a garden in my house. With Jorge, about 2 months. The gardens are pretty much the same. One difference are the insecticides Jorge made to fight pests. You can eat these insecticides, but the ones you buy you can’t eat because they have chemicals.

Doña Marta says she has had a garden for two or three years, but before that it was just overgrowth. “In the back are my little animals,” she says of her backyard animals, which are typical characters in home gardens. She continues to explain her previous gardening compared to the current project:

Before we would plant in buckets and hang from trees so that chickens won’t get to them. In this community, almost all women plant like that (referring to buckets)...until Jorge came and showed us how we would kill the bugs and how to make this...how do you say...in a way that doesn’t contaminate.”

Doña Marta alludes to the benefit of the fencing and the raised garden beds so that her little animals will not get to the edible plants. This benefit is very great, as make-shift wooden fences, or *kolox’ches*, can be very time consuming to construct. A very important part of the project, and one the Doña Marta, Doña Concepción, and several other women point out, is the introduction of organic pesticides. Part of the project included the introduction of these alternatives to chemically-heavy, synthetic pesticides that are often hazardous for the people and the surrounding ecosystem. Jorge taught the women what the benefits of these natural pesticides were, created an initial batch, and showed the women how they could make more. These pesticides included onion tea,

garlic tea, and tobacco tea that were placed in spray bottles and given to each gardener (Figures 20 and 21).



Figure 20 and 21: Homemade, organic pesticide products made in FCP with help of environmental consultant. (photos by author)

Some of the women have a difficult time grasping the idea of the *apoyo* in the form of materials and workshops with periodic follow-ups, versus simply materials or cash that the government would disperse directly. While interviewing the project participants, I learned that there was a previous *apoyo* in the past; one with little to no vigilance. Some of the women confided that approximately seven years previously⁹, the government had awarded aid to the community in the form of chickens, garden materials, and cash. Doña Elisa shares that she has had a *huerto* (home garden) twice. The first

⁹ Two women state that the previous government-funded garden project occurred 3-4 years ago, though seven of the women said it occurred 7 years ago. All women had a difficulty recollecting project initiation – including the current one – in terms of time. Jorge confirmed that it had occurred approximately seven years ago, though he had very little information on this project and records of this project were not located.

was seven years ago. “About...seven years ago there was a government program here where we got seeds, chickens, and a little money to do gardens. I had the garden until the seeds ran out, about a year after it started.” I ask if anyone came back after initial disbursement of the material and money and she said “no, no one came to explain anything.” Doña Marta and her mother-in-law, Doña Chela, are preparing the evening meal as I ask Doña Marta about her gardening history. “It has been two or three years that we have had one. We had one before but we ran out of seed and so we left it; some men years ago came and gave us seeds and some money and chickens; we already ate them [the chickens],” says Doña Marta. Doña Chela, in her seventies, adds without looking up: “Three years, not before. Before only in buckets.”

When asked how long she has had a garden, Doña Elsa says that it has been about three weeks with Jorge, but they had one long ago. The concept of time is inconsistent amongst the women, as many give different years for the first garden project and differing weeks/months for the current project with Jorge. Doña Elsa claims three weeks, though the project’s actual initiation began six weeks ago. When Doña Elsa mentions the old project, I ask why they ended it. She says they stopped having the old one because they ran out of seeds and did not buy any more. She explains that someone gave them seeds long ago when they started their first *huerto* (though bucket-gardening in this context is not considered a *huerto*). Discrepancies reflect the lack of written record in the ejido; a written timeline of events is non-existent in the community.

Despite difference in timelines, it is fairly certain that the government assistance program for home gardens occurred approximately seven years ago. This program did

not last; the main reason cited for the failure of this project was that the women ran out of seeds. When asked about her gardening history, Doña Isabel says:

I always plant a little. One day they gave us funding for the gardens and some chickens. We made a kolox'che with the money they gave us to keep the chickens out of the garden. It was about 7 years ago. We planted right in the ground, not up high like the *ka'anche*. We stopped working it when the seeds ran out. Jorge says that this time we won't run out.

Although all of the women stopped working their gardens and cited lack of seeds as a reason, there was one woman interviewed who continues to have the fruits of the old garden. Doña Tina, when asked about her gardening history, says: "The first time was because they gave us a garden with chicken." When asked what happened to that garden she says with a smile that they still have it. She says they have had it for many years and bought the seeds needed to continue it. From the old garden they harvested lots of chiles, tomato, radish..."It is better to have a garden because there is no money, but there is that." I ask what the difference is between the old garden and the new garden and Doña Tina answers that they have yet to harvest from the new one because it is too new. They have just finished harvesting their old garden area and say they will be buying seeds to plant again. Doña Tina says there is no money, but they have the garden; she is referring to the small income made from the surplus produce they harvest. They have family members that live in the nearby town of Valladolid that purchase their produce at a discounted price every year. They sell tomato, habanero, radish, cilantro, even carrots from the old garden. She explains that they keep some seeds of the produce (i.e. cilantro, chile, tomato) to plant for the next year; the seeds of onion, radish, carrots and other

seedless vegetables are bought from Chemax. She confirms that they started the old garden about seven years ago and now are starting again with Jorge.

Doña Tina and her family are one of the only families in the ejido making use of the home garden as a means to supplement their household income. Her husband – like many of the men – works in the city at times as a construction worker, but mainly devotes himself to the *milpa*. This extra income earned is at least enough to avoid spending on produce; an expenditure that can add up over time. When I ask Jorge if the vision of this new home garden project is to create forms of income for the women and their families, he answers: “Eventually. There are many reasons for the gardens, but it will be up to the women how they choose to really do it.”

The discovery that a garden project had already occurred in the community prior to this one is revealing and further explored in chapter five. A precedent had already been set, but Jorge has very little knowledge of this project and the reasons for its failure. There seem to be various reasons for a lack of continuing the garden, but the main reason was the lack of seeds, or simply not purchasing more seeds after the initial planting. The first project follows the model of government assistance without intermediary involvement – like Jorge and Bioasesores. The project dispensed the materials to the women directly with no follow-up, and although there were initial benefits for all (i.e. chickens and money), the gardens ceased to exist for most families. There was a lack of training and a lack of follow-up. The new garden addresses these issues to an extent and has a different approach; the continual presence of Jorge alone is motivating and has kept many of the women highly involved. While doing an interview with his wife, Don

Feliciano was present and summed up his view of the difference between the old gardens and this new one.

There are more things involved in the new one, we've learned how to mix earth, how to do pesticide...here the farmers have their own technique, we see how the *abuelos* do it and that's how we do it. It [new garden] is something that comes from studies, more modern. I think better.

A New Garden

Approximately a month and a half before this fieldwork, the project began with a three-day informative session mixing theory and practice. The women learned hands-on how to prepare a small bed, mixing in compost. They also learned the values of composting and how the organic materials from their peels and left-overs can be used in the garden's compost. While shucking beans from their pods with the family, I ask Maribel what they do with all the peels. "We put them in the compost," she says. I ask if they have always done this and she responds: "No, because before we didn't know. Before we would let it dry up and burn it, but when Jorge came he taught us about the compost."

Beyond the compost, this three-day workshop covered various topics. A small manual was made (Appendix C), used as an organizational tool by Jorge to describe the workshop's topics and actions. The title answers a previous question as to the vision of the garden project. Financial benefit is listed as one of the first home garden benefits in the title, that reads: 'Use of organic home gardens as an alternative for family savings, community health, and conservation of the natural environment of the ejido Felipe Carrillo Puerto.' The workshop took place from November 10, 2009 to November 13, 2009 and all 28 women participants attended. The workshop was broken down into

various sessions, some theoretical and some hands-on lessons for the garden project.

With the aid of a PowerPoint presentation on his computer, Jorge spoke to the women first about the history of organic home gardens since pre-Columbian times and the benefits of their use. The benefits listed in their original order for the use of these organic home gardens include:

- Production of nutritious food
- Contribution to family financial savings
- General health benefits for the people
- Contribution to the development of the community
- Income for family economies

Jorge also communicated the key role that women play in the development of their communities and families as well as the degrading effects to health and the environment that agrochemicals and pesticides cause. Other, more specific topics included companion planting,¹⁰ carbon-fixating plants, plants with caloric value, crop rotation, pest control, and seed saving. This latter topic is one that is key and helps address the issue of lack of seeds from the previous garden project. Jorge drew from many methods of biointensive small-farming and organic agriculture. Experiences from numerous cases based on these methods' application lead to the conclusion that, with appropriate technologies in small areas (such as home gardens), yields have the potential to increase by two to four times compared to conventional agricultural systems (Bueno 2004). The alternative systems that Jorge drew from are based on small-scale production

¹⁰Companion planting is the planting of two or more plants in close proximity to one another so that one or both may benefit from the nutrients, fixation, or some other benefit that the other provides.

and are focused primarily on organic principles without the use of synthetic fertilizers or pesticides. Organic means – such as the compost and the teas – are used instead.

Women learned various methods during the workshop. Hands-on lessons included the preparation of mixed soil, an example of garden bed preparation, an example of compost bed preparation, and an example of pesticide tea preparation. Jorge only speaks Spanish and so the women who do not speak Spanish were helped by other women with translation (though I later discovered that not all the women understood what Jorge had said). At the conclusion of this workshop, Jorge explained that he would be returning in a matter of weeks to follow up and see how the women's respective home gardens were developing. With the help of male family members, the women were to create the foundation for their gardens and begin planting.

When Jorge returned, he found that all the women – though on different stages of growing – had completed their garden beds. The people in Felipe Carrillo Puerto are hard workers and show a positive disposition to participate in the development projects that are being introduced by the change agents in the community. There are very great potentials within this biologically diverse and culturally-rich ejido, however there exist various obstacles that question the sustainability of this new garden project.

Chapter 5: Sustainability in Question

Sustainable development has become a widely-used concept in conversations about multi-scale efforts to mitigate environmental woes. Although it is arguably overused and paradoxical in its literal interpretation, it remains a useful term when dealing with shifting natural resource management. Sustainable development reflects a growing concern for biodiversity conservation and simultaneous creation of local, economic opportunity. A self-sustaining development model attempts to avoid the negative environmental impacts of economic growth on the environment. Impacts of the growth model are present on various scales; in the rural landscape, damages to the environment expansive. In Mexico's countryside, these include deforestation, erosion of agricultural soil, an indiscriminate use of fertilizers and insecticides, intensive extraction of groundwater, and contamination of the main hydrological basins (Delgado et. al 2006). Ejido Felipe Carrillo Puerto is attempting sustainable development in which economic growth can be achieved without compromising the environment. These efforts are being conducted in a rural landscape where the pressures of economic poverty and ecological conservation are at their greatest.

Small-scale producers in rural, often remote, areas are valuable producers that continue to make up the majority of the population in poverty in Mexico. It has been approximately five decades since agricultural development programs have been present in the rural landscape promoting the increased production and productivity of small-scale producers; however the value of these producers to the larger national and global economy were not acknowledged for very long. It is estimated that small-scale producers

in developing countries produce over half of the countries' produce (Limaylla 2010). Despite this value, there have been many setbacks for the rural farming communities. The process of globalization and structural adjustments (for Mexico, the most notable change is the passing of NAFTA in the early nineties) has had deleterious effects, leaving deficiencies in the social and economic spheres that the private sector does not adequately address (Rodriguez 2001). Small-scale producers have had little opportunity to generate additional incomes given market issues, inability to compete with industrialized products, and the inability to respond to these as well as price increases or production losses (Limaylla 2010).

In Mexico, subsistence producers are among the poorest and most undernourished of the country's population. Among the poorest regions of the nation is that of the Yucatan Peninsula. The poor farmers in these regions have long lived with the reality of marginalization and suffering, hoping that the season's harvest in the milpa will yield enough to create some surplus. Response to the growing wealth in the cities and the continual neglect of the agricultural sector has been movement of people to the cityscape and abandonment of the fields: rural-urban migration.

Rural to urban migration has been an ongoing process in Mexico, especially in the last few decades. From 1980 to 1994, migration from rural Mexico to urban Mexico (not including mass migrations to the U.S.), grew 182 percent, and from 1980 to 2002 migration grew 352 percent (Mere 2007). Although this type of migration has been a prevalent pattern in Mexico for many years, ejido Felipe Carrillo Puerto has not followed. Instead, this poor, Maya community reacts to economic pressures in the following ways:

- Temporary employment for the men in neighboring touristic cities
- Honey Sales
- Livestock
- Minimal surplus produce sales
- Minimal handicraft sales
- Relationship with environmental consultants to:
 - Increase honey sales
 - Ecotourism
 - Women's Projects

Women's projects in ejido Felipe Carrillo Puerto are part of a growing global movement to acknowledge the role that women play as stewards and the potential that empowerment via sustainable development projects can have on both the women, and their communities, culturally and ecologically. The focus of women in the development scheme occurring in ejido Felipe Carrillo Puerto stems from the growing movement of WID (Women in Development) that began as a global conversation in the seventies. During this time, various studies highlighted the importance that women have as direct players in various activities, particularly those related to agricultural production, reproduction, and community management (Castillo Ramos 2001). The grant that has come to the community in three parts – and which Jorge was able to allocate – focuses on women as the main participants. These government funds are intended to improve conditions within rural communities, by centering on environmental issues and women as stewards of these spaces. Thus, the aim is for environmental conservation, rural

development, and greater gender equality. Women are key managers of development projects, and in Felipe Carrillo Puerto, they are the main players in the women's home garden project.

Maroto explains that "...the family home garden is the vegetable reserve adjacent to the residential house whose establishment reflects a fundamental aspect of the cultural identity of a human group in relation to nature, in it is the practice of social, biological, and agronomic activities constituting an agronomic unity of sustenance at the door of the home" (Maroto 1990). In ejido Felipe Carrillo Puerto, this is evident as Doña Clara checks on her new sprouts while Oscar and Mari are playing in the yard and her husband is preparing the pit to cook the freshly-made tamales underground. The family is spending time together, as a unit. This strong bond is noticeable in the community, and the backyard garden helps facilitate this. Beyond serving as a space for family bonding, home gardens in FCP were begun with the specific aim of serving as an alternative form of:

- Economic savings for the family
- Community Health
- Conservation of the ejido's natural environment

Whether these goals were met or not is difficult to tell, and measures of success for these are not included in the execution of the garden project from the environmental consultants. Developing these measures lies outside the scope of this study. However, indicative responses from the women (drawn from extensive interviews and interaction) and observations that I have made help highlight the strengths and weaknesses in this

project. The strength of the local women highlights their struggle and successes in maintaining a homeland in the face of outside economic pressures. The NGO has well-intentioned goals of aiding a struggling indigenous community in poverty, but the outcomes question the ‘sustainability’ of the project itself.

Home gardens have long been a tradition in rural homes and in Felipe Carrillo Puerto these include the planting of cilantro and habanero in buckets hanging from trees. Few families have had raised garden beds in their yards to plant beyond these two staples, and now, through the collaboration with Bioasesores, 28 women and their family homes have significant raised garden beds in their yards. Doña Margarita and her daughter-in-law share their garden space and spend a lot of time tending to the seedlings and plants. When I was interviewing her, she was very anxious to give me a tour of her plot and plants; she said: “I am very proud to show people what I have done. I like sharing the garden because it is very beautiful.”

Thus the gardens have not only created a space for families to commune, but also a space that harvests a sense of pride for the women. All the women interviewed showed a sense of pride regardless of what stage they were in their home garden process. One woman, who had only just constructed the raised garden bed with the aid of her husband, was still very proud of the work done to accomplish that task. She shared told me that she has a calling to work with plants. A translator was able to help communicate her answer to one of the questions in the interview: ‘Where do you see yourself in the future, years from now?’

I see myself working with plants because whenever my children get sick, I pray the night before, and in my dreams I see the plants that I am supposed to use. The

next morning I get up and find the plants in the jungle and make a concoction. I give it to my sick children and they get better. So I want to work with plants.

Following in the traditions of predominantly male, traditional healers, this woman sees herself as a future healer. She has an even deeper link to the natural world and hopes that the garden project will help even further. The majority of the women given the ambiguous question cited above asked for the question to be repeated. Once rephrased and repeated, the majority of the women responded that they would like to remain in the ejido. The following are some of the answers that the women gave to the question of ‘What are your future plans/goals? Where do you see yourself in the future?’

“I don’t understand what you mean with ‘goals.’ (Maribel then explains in Maya)...” “I want to study. There’s no school (for me) because my dad, since long ago he was very poor and told me ‘you can’t study because we are too poor and besides, you are a woman.’ If you weren’t a woman, you would study in the boarding school.” – Doña Clara

“I like to work, a lot...and I want to keep planting...and keep sewing.” – Doña Concepción after having question translated in Maya by daughter

“I don’t plan on going anywhere. If they can do Pak’chen (the ecotourism project) and if work comes for the women, we’ll work because we need the money.” “That is what Alberto says, he says that the gringos are going to come, to not get anxious, that when they come there will be work for men and also the women.” – Doña Marta

“Well, get ahead a little, get my daughters ahead, just that.” – Doña Marta after having question translated in Maya by daughter

“I would like to be here. I like it, it’s calm and there’s not that much contamination.” – Doña Maribel

“There is no place to go, I will keep working.” – Doña Elisa

“To me, I think I would like the cenote idea to work; what they are trying to do. We can be there like female workers.” (i.e. sell crafts to tourists) Working with Bioasesores is good because they know a lot that we don’t know.” “Handicrafts is what we want to do, well that the cenote works because there is not a lot of

work, with the crisis and everything.”- Doña Ingracia (wife of the ejido leader)

“I would like to live here all my life. I even want to be buried here when I die.”- Doña Isabel

“God willing and the ecotourism works out, we will stay here forever.” – Doña Oliva

“To embroider and sell it...and make hammocks.” – Doña Maria Balam

“To work here in FCP.” - Doña Margarita

“That there always be enough for the children, for the health of the children.” – Doña Paviola

The women see themselves remaining in their community in the future and exude pride in their community similar to that of their garden projects. While Felipe Carrillo Puerto women are seeing an opportunity in the garden project to supplement incomes for a more stable future within their communities, the gardens are also fomenting a sense of pride and empowerment. The work that is being done in collaboration with Bioasesores was cited by a few women, in particular the ecotourism project that may bring in tourism and offer forms of income that would further their goal of being economically sustainable within FCP.

The women’s home garden project in ejido Felipe Carrillo Puerto is a valuable source of social, biological, and economic activity. Aside from its benefits, there are various observations made during the course of this research that highlight five areas of concern for the project’s lasting success. The focus in these constructive criticisms is the role played by the NGO, Bioasesores. The first criticism further explores the lack of knowledge of the prior garden project in the community and alternative ways the

commencement of the project could have included this. The second is the existence of a language barrier, where the predominance of the Maya language – while workshops were led in Spanish – may have left some key instructions lost in translation. A third includes the challenges that the NGO faces when allowing the women to mold their own garden project; these include the tendency towards individuality and the widespread occurrence of *chisme*. The fourth is the undemocratic appointment of leadership roles in the women's cooperative; a decision made by the NGO and not the women. Finally, and fifth, there is a question as to future follow-up and plans to continue the project. The future of the women's home gardens in ejido Felipe Carrillo Puerto is unknown, however there are signs that the project is dwindling. Ultimately, as in so many development projects in rural Mexico, the critical issues are funding as well as the successful execution of projects that are long-lasting.

Unknown Precedent

During the interview stage of this research, it was discovered that there had already been a home garden project in the ejido prior to the current project in collaboration with Bioasesores. Information provided by the women during the interview process brought this precedent to light. It was revealed in the third interview that people had come to the community and distributed money, supplies, and chickens for the women to grow and maintain an outside garden and coop. Doña Chela said, “We had one (garden) before but we ran out of seed and so we left it; some men years ago came and gave us seeds and some money and chickens; we already ate them the chickens.” Doña Chela also states that they abandoned this garden when they ran out of seeds. Subsequent

interviews revealed a similar pattern without any prompting about the prior garden.

Some of the revelations include the following:

“The first garden was like seven years ago, a government program where they gave us seeds, chickens, and some money to do the gardens. I had it until the seeds ran out. This one (garden) with Jorge is the first one we’ve had in about six years.” – Doña Elisa

“We had one long ago, maybe four years or more, but we ran out of seeds and didn’t buy any more. They were government officials, and now we have this one.” – Doña Elsa

“One day they gave us funding for the gardens and some chickens. We made *kolox’ches* (fences) in exchange for the money so that it would keep chickens out of the garden. It was about seven years ago. We planted the plants straight into the ground. We stopped working it when the seeds ran out. Jorge says that this time they won’t run out.” - Doña Isabel

“The first time was because they gave us a garden with chickens. We had it for years and bought seeds we needed and got food from it, lots of chiles, tomato, radish...It is better to have garden because there is no money, but there is that.” - Doña Tina

“This one and the old garden program; we had it for four months and harvested some but did not continue. We ran out of seeds and did not continue. We just have cilantro and habanero in the buckets.” – Doña Tomasa

“We got a family garden from the government like six years ago when they gave us things for a garden and chickens. We had it for about four months. We got bored and we left it, and we ran out of seeds.” – Doña Agustina

“We had an old one like six to nine years ago with chickens, we bought more seeds and still have the old one.” – Doña Rufina

“We had an old one with chickens. We had it for about three years. We stopped it because bad weather knocked the *kolox’che* down. We built it again but only planted bu’ul (beans)...there’s orange trees.” – Doña Maria Balam

“The old one and this new one. We made an old *ka’anche* (raised garden bed) because of the chickens. We only had it for six months because the the *kolox’che* (fence) didn’t last, we just have this new one now.” – Doña Margarita

“We had an old one about four or five years ago, but after the hurricane the fence

fell down and the pigs ate everything. We didn't rebuild it. But Jorge brought the metal fence so I don't think that it will fall again because it has cement in the corners, I think it is better like this.” – Doña Paviola

Many of the women cited the prior home garden project. Additionally, the majority of the women who cited the project noted that the reason for abandonment of the project was due to running out of seeds. It should be noted that a majority of the plants that are grown (such as chiles, melons, and beans) produce seeds that can be utilized for future planting. Whether the women did not know that they could harvest the seeds for future planting, or if they simply chose not to continue the previous garden is unknown. What is certain is that there was a precedent in the community of a garden project.

The main environmental consultant, Jorge, said he was not aware of this project. No investigative work into potential garden projects in the past was done prior to this current project. This investigation does not aim to compare and contrast the two; however, the fact that the previous garden project existed and that no preliminary work was done to investigate its origins and composition is noteworthy. It signals a potential mistake by the NGO; they may be repeating similar patterns of the past that did not work. Only a couple of the women still had their old garden from approximately seven years prior, and this is reportedly due to their continual purchasing of the seeds. There are likely other dynamics and factors that are attributed to the major decline in the garden project of the past. Four main differences between the old and new garden project include:

- Chickens
- Cash dispersal

- No workshop series/follow-ups
- Government agents take lead

The women were given chickens in the old project and not the new project, however they were given no direction in the raising of these chickens. There were no series of follow-ups and workshops as in the newer project. The women were simply given supplies and some cash to work on the projects. The people who came to disperse the cash, supplies, and give initial direction were government officials. Programs typically involved direct cash dispersal with no intermediary efforts, such as the presence of an NGO. Currently, the Mexican government does not give direct cash dispersals as in the past; many times the money was used for purposes other than those intended by the given projects. Instead, the government has a number of grants available for communities in need; NGOs and other non-governmental actors are typically those that help allocate these resources by applying for the grants. Within the grant application, specific timelines and capacity-building workshops are required. Additionally, a breakdown of the expenditure and receipts is also necessary. This helps ensure that a direct, long-term benefit is reaching the communities versus one-time cash (or chicken) aid.

Jorge and the NGO follow this pattern of grant proposals to work with ejido Felipe Carrillo Puerto; however there is value in delving deeper into the past garden project. What resources were introduced then? Was companion planting, composting, and organic agriculture part of the conversation? Was there any direction into management of small backyard animals? Were there any long-term goals? Were there any follow-ups to the project? What are the reasons that some women continued the

project and the majority did not? These are all potential questions that could have informed the current project.

Language Barrier

All of the people (with verbal capacity) in ejido Felipe Carrillo Puerto speak Maya Yucatec, which boasts over one million speakers in the region. Spanish is second in importance. The oldest members of the community are the only ones who are not bilingual and speak only Maya. The school teachers that come into the community to teach¹¹ the children do so using a bilingual format. In my numerous interactions with the children of the community, it is apparent that their fluency in Spanish is not at the same level as their dominance over Maya. Maya is the language that all of the children's families speak in the home; since they hardly ever leave the community, the limited opportunity they have to speak Spanish is in school. The children are very adept to learning Spanish and memorized various short songs that I sang with them for the first time. While Maya Yucatec is the dominant language spoken, it is difficult to determine whether Spanish will be growing in popularity as the younger generations raise their level of education.

Of the 28 women that participated in the garden project, all are fluent in Maya Yucatec and range from no Spanish knowledge to intermediate Spanish. None are fluent in Spanish, and during the entire interview process, rephrasing and repetition (and some translations) were necessary to communicate the questions. The workshops that Jorge

¹¹ A middle school teacher was hired by the government to make the trek to the ejido FCP beginning in 2010. This is the first time members of the community will have children attending school beyond the fifth grade.

gave to the women were done via markers and paper, computer PowerPoint presentations, and hands-on presentations. These were all done in Spanish. Doña Clara explains that some of the women helped translate the workshop content to the women who did not comprehend. Much of the content was brand new information for the women, making it very difficult to translate such terms as ‘compost,’ ‘organic agriculture,’ and ‘companion planting.’ During my interview with Doña Concepción, she explained that there are some words they use in Spanish that they have adopted into Maya Yucatec since they do not speak a purely traditional Maya Yucatec. For instance, words for ‘table’ and ‘chair’ are unknown and so they use ‘*mesa*’ and ‘*silla*’ – the Spanish words – when using these words in fluid Maya Yucatec conversations. When asked, Doña Concepción (and her daughter, whom is translating) says there are no words for ‘ecotourism’ or ‘agroforestry,’ and they have never heard of the phrase ‘sustainable development.’

Jorge attempts to describe these processes in a simple, straightforward fashion, and utilizes images on the computer, as well as hands-on examples. These are all very effective methods of disseminating information across language and culture; however, it seems that this is still not sufficient to convey all of the messages of the project. One woman notes that she did not understand all of the workshop content. When visiting the gardens around the community, some had not transplanted the smaller plants as they were directed to do; others transplanted straight into the ground versus the raised garden bed; and others planted seeds directly into the garden beds without transplanting. This detail shows that not all of the women received the same messages. The workshops lasted from

approximately November 10, 2009 to November 15, 2009. During this short period, Jorge introduced various concepts and methods such as design and preparation of the gardens, companion planting, and natural pesticide production. The content covered in the short time frame is significant when taking into account a language barrier.

Following workshops, women were asked if they had any questions. Doña Clara told me that hardly anyone spoke up to ask questions. “Many women are shy, and they don’t speak Spanish, so they just don’t say anything and don’t understand,” she explained. A large part of the project’s success relies on the women understanding the garden project and its strategies. There may be other ways to ensure that the messages are being received with a language barrier. One method would include a lot of repetition and rephrasing, and asking if there are any questions throughout the workshop. Although Jorge did this, a greater amount of repetition would only help. Additionally, some materials (such as the PowerPoint presentation) should be translated into Maya. This would make the images coincide with familiar words that the women may grasp and understand more clearly. An obstacle may include a lack of resources to hire a translator; however it is critical that at least a portion of the workshop include Maya Yucatec. Lastly, a recommended method may include a type of exam that would test the women’s knowledge of the workshop subjects. This may be as simple as asking the women such questions about the garden as ‘which plants require transplanting?’ or ‘when and where are transplants made?’ This would give some indication of the collective understanding of the group. Some women may be shy in answering, but this would also serve the purpose of repetition. These recommendations can be elaborated for future use, but it is

apparent that a language barrier is a challenge for the NGO in executing sustainable development projects.

Individuality and Chisme

There are a couple of observations that I make here that stem from the organic development of the women's garden project: 1) the women tend toward individuality in the garden design, and 2) *chisme*, or gossip, compromises the project's success.

When beginning the garden project, Jorge explains that he gave the women a choice to garden in one large community garden plot at the center of the community or have individual home gardens; the women opted for the latter. Each woman is given her share of supplies for the garden and a selection of seeds. Once they are finished harvesting their first set of plants, they can continue growing these or change their seed selection for other plants that grow well together. One project participant explains that she was given lettuce, cilantro, and radish. "That is all they gave us, when we finish harvesting this we can continue growing some or change the seeds," she explains. Doña Concepción explains further: "We got different seeds. Jorge gave us plants that grow well together because some plants don't grow well with others." Jorge explained that the reasoning behind offering a select amount of plants to each participant would allow for accountability and bartering. The women would need to tend the garden and harvest before obtaining new seeds (kept by the president of the women's cooperative, Doña Clara); and the women were encouraged to barter amongst each other to obtain foods they are not growing. While the women are growing their respective selection of plants, not all are practicing the intended bartering system. One participant, in favor of bartering

says, “One day my neighbor said that if I give him lettuce, he will give me radish.” The participant explains that their family plans on bartering their harvest, but points out that some do not want to exchange; they sell instead. She goes on to say that she prefers both bartering and selling because “sometimes people don’t exchange it and some don’t buy here either, that is why I go to Chemax to sell lettuce and cilantro. They buy a lot from you there.” Doña Concepción says that some plants are sold and others traded. “A woman that just now grew radish is selling it,” she says. When I ask her if she likes this system, she answers ‘yes.’ “There is no money here,” explains Doña Clara, “that is why we sell the harvest if there is enough to sell. We sell firewood if there is enough.” Though she is describing the surplus harvest of the *milpa*, the same pattern is being followed with home garden harvests. This is the direction that the women are choosing to take.

Another occurrence that is very apparent in the community is the lack of trust and the role of *chisme*. From the beginning of this fieldwork, there is a consistent mention of *chisme* and mistrust. Doña Clara, one of my first interviewees, explains that some of the people in the community (both male and female) say that she and Jorge take the money from the project. She is the women’s cooperative president, and so she is in charge of keeping extra funds, seeds, and other materials, etc. “There are women that say that my mom and Jorge just spend the money,” explains Maribel. Doña Clara said:

Everything is purchased with receipts. It is not true what they say. The money is spent on material bought with receipts. Other women wanted the money to be distributed but I stayed with it and material was purchased with receipts that were submitted to SEMARNAT.

Doña Clara went on to tell the story of one couple who came to her home and the husband refused to take the wire fencing material, but wanted the money instead.¹² Doña Clara says that he came to her door asking for the material, and she was given instructions by Jorge to only distribute to those who had completed construction of their raised garden beds. Doña Clara says that when she asked him if they had finished their garden bed, he was offended and started insulting Doña Clara, telling her that she should not keep the money and distribute it, and that she could eat the fencing material. He indignantly left the home, and they were the only members of the project to not receive materials at this point. During fieldwork, Doña Clara ran into the women whose husband supposedly insulted Doña Clara, and the two women argued in Maya. When Alberto – one of the two consultants that visit the ejido – was in the community to visit for a few days, he played the role of mediator. He went over to the woman's home and offered to deliver the fencing, as they had completed the raised garden bed they were required to finish by Jorge. That evening, the woman's teenage son showed up to Doña Clara's home to pick up the fencing.

This is the clearest example of *chisme* during the time of this research. Although the matter was settled, Jorge indicates that there is an ongoing divide between families in the ejido. Though it is subtle, there tends to be a divide that periodically causes conflict; this is evident in the conflict over the wire fencing. This 'he said,' 'she said' conflict is superficial and petty at first glance, but has the potential to be a powerful divider and inhibitor of cooperation within the ejido. When interviewing Adolfo – the only male

¹² Part of the project's stipulation is that all material purchased needed to be accounted for, and there is to be no direct cash dispersal.

participant of the project – he says that people in the community say he is too *pesado* (full of himself) because he is from Chemax (the nearest town). *Chisme* also has a way of creating or reinforcing distrust. During the course of this fieldwork, Doña Clara and Doña Isabel (president and vice president of the women’s cooperative) went around the community to check on the households’ progress. Jorge was going to come back to check on their progress as was a representative of the SEMARNAT, and so they want to make sure that materials are being well utilized in order to ensure continual funding opportunities. All gardens visited had been planted. While at the garden of Doña Elsa and Doña Elisa, there were many rocks in the garden beds. All of the conversation was in Maya, and I was without a translator. Apparently Doña Clara and Doña Isabel were explaining that sprouts were more likely to emerge when rocks were removed. I later learned that these sprouts were suppose to have been planted in a small container to be later transplanted. Nonetheless, the two women repeated the information that they had received from Jorge during the workshops. During this time I began to remove some of the rocks that were in the garden bed, all the while smiling and not understanding the current conversation. Afterward, I found out that this was interpreted by the women of the household as my pressuring them to grow faster. Although I introduced myself and my role to everyone in the community, the language barrier may have impeded some people to understand my true role; the women thought I was in an authoritative position to promote quicker growth of the gardens. During a meeting of the women’s cooperative, this was brought up, and the Doña Clara and others defended my position explaining that I was simply a student writing a paper, that my intentions were not to pressure anyone but

simply to gather information. I am unsure how convincing this was, but the experience serves as a field lesson in well-intentioned actions being misinterpreted. Again, this hearsay can fuel a sense of distrust and be catastrophic to communal endeavors.

The director (Claudio) of Bioasesores echoes this challenge. He says:

There is a large weakness in organization for the agrarian groups; communication and confidence between leaders and the people is missing. People in small ejidos don't trust that the money is going to the project or want the money to be distributed to them directly (as was customary in government-funded projects of past).

. The secretary of the ejido, Moises, spoke at the women's meeting. He explained that those women that want to do the project need to commit to it; if they do not want to commit to it completely then they should not participate since partial completion of the project reflects negatively on all the participants. He also explains the difference between today's *apoyo* (grant with NGO capacity-building) and the direct help they have received in the past (direct disbursement of cash and/or materials). The *apoyo* is for workshops and materials, and requires work, but has its benefits. "The money is different, you don't focus on a project that way," explains Moises. Jorge says that there is a very large challenge in conveying the message that this is a project, and not simply an *apoyo* (or support in financial form). Many communities are used to government aid in the form of direct cash dispersal, so Jorge says: "I have to be serious and tell them they are not going to get money, it is for the project. They know we are not the government, but if the government gives us this money to work together, well it needs to be justified."

Adolfo, brother of Doña Isabel, explained the meeting to me and let me know what it was about. He says they were discussing the issue of some of the women who no

longer wanted to participate in the garden project. “I think it’s because they are lazy, they want the money, but if they get the money they will spend it all.” Adolfo also has his own garden. It is under his sister’s name (since she meets the requirements), but she currently lives in Chemax and only visits the ejido. Although everyone knows this is technically against the rule, no one thinks it is worth fussing over. Adolfo has a makeshift home – not one of the cement block homes – at the very ‘end’ of the four dirt streets in the town. Figure 22 shows Adolfo proudly standing in front of his home; his well-kept garden is further right. His garden has one of the most visible yields in this early stage of the garden project; he even has zucchini squash already producing (Figure 23).



Figure 22: Adolfo in front of his home. (photo by author)



Figure 23: A zucchini from Adolfo's garden. (photo by author)

The challenge of *chisme* will be a continual one, but the longer that the model of the NGO as intermediary manager of government-funded development projects continues within the community, the more of a norm it will become. This is a region in Mexico that is very accustomed to corruption, even within higher-up governmental officials.

Therefore, it seems that one of the only solutions to *chisme* – that leads to or feeds distrust – is time. Familiarity with the projects and their consultants over time has the potential to diminish *chisme* and create a greater sense of trust. The issues of tending towards individuality versus community, and those of *chisme* and mistrust are evidence of an organically-implemented project; neither a 'right' nor 'wrong' approach, but one with inherent challenges.

Cooperative Co-opted?

One approach by the environmental consultants that *is* questionable is the election of leaders within the women's cooperative. The cooperative's leadership is sub-divided into president and vice-president. These positions are occupied by Doña Clara and Doña Isabel respectively. When I asked the women how they were elected, they said that they were chosen by Jorge. I at first doubted that the consultants had bypassed any democratic method and personally elected leaders. When asked directly, Jorge confirmed what Doña Clara and Doña Isabel had said: they were chosen by the consultants and not the women.

Delving a bit deeper into the reasoning behind this method, Jorge and Alberto (the two main environmental consultants in the community) say that they jointly chose Doña Josef because they “know her family, she was married (a requisite of the grants), and she spoke up.” Doña Clara says that she was chosen because she is the only one who is not embarrassed to speak her mind. This seems like it may be problematic, since the women were not a part of the decision-making process. There are women that question the leadership of Doña Clara. As discussed, she is accused of taking the money for the project, and she has had direct conflict with at least one participant of the garden project. The method of assigning leaders is questionable. The women do not feel that they are a part of the process, and this may lead to potential consequences down the road.

Follow-up?

“There has never been a diagnostic like the one we are preparing now. We do not leave them to figure things out on their own; we continue to be there. Since it [funding] reaches them from the government, there is no follow-up.” - Alberto

Here Alberto is insinuating that government programs do not follow up on funded projects/programs. This lack of follow-up causes programs to only last in the short-term or to be executed in unsuccessful ways. One example of this in the ejido Felipe Carrillo Puerto is the cement-block building materials that the government helped distribute to various communities. It is well-known that the materials that were distributed either stolen in part by the distributors or sold by the people once distributed. There is no accountability for many government-funded projects and programs.

Alberto distinguishes the environmental consultants' role from the government in Although the funding is governmental, the NGO is an intermediary and helps manage the projects with a vision that the community can prosper (economically and ecologically) on its own. This may be the theory, but the practice is much more complicated.

Since this fieldwork was undertaken, Alberto and Jorge no longer work directly with the NGO. They continue their relationship with the ejido and Jorge has even been awarded a grant to construct a women's solar bakery using reclaimed bottles as materials for the infrastructure (Figure 24).



Figure 24: Solar Bakery in FCP (photo provided to the author by an informant who wishes to remain anonymous)

Although the women do not know this yet, Jorge plans to move far from the ejido in a matter of a year or two and therefore discontinue his involvement with the community. The impacts of this move may be very costly to the women's projects. The degree of trust that has been built up to this point will need to begin again with a different environmental consultant; if no one replaces Jorge, the grant-driven projects may come to a standstill. This is also the case with Alberto's involvement; his new professional position requires a certain degree of travel and a potential change in his relationship to the community. This is not a unique problem. Changes in leadership usually are

problematic. However, in an impoverished indigenous community located in an area notorious for corruption, it may take longer than in other communities to build trust.

The participants mentioned various times in our interviews the need to have garden beds prepared ‘for Jorge’ and ‘when Jorge arrives’ or ‘so that Jorge can see.’ The follow-up that Jorge and Alberto are giving to the community now is commendable, but there will be a time when they are no longer there. Whether the community will be prepared to continue on their own, or whether the loss of follow-up will have detrimental effects on the projects is unknown, but it is a very real concern.

Conclusion

Future of the Gardens

The future of the home garden project is uncertain. After conducting fieldwork, I returned approximately eight months later to visit the community and reconnect with the friends I had made. While there, I inquired about the gardens and realized that many of the women had not kept up with them. Several were left unplanted and a common excuse was the summer rains. The women said they were too harsh on the small plants. I was unable to ask Jorge about this in order to find out if there had been a plan for the summer rains, or if this was not a good excuse. Jorge was busy working on the latest of the women’s projects – the local bakery – at the time. Whatever the reason, it is apparent that at least some of the women’s gardens are dwindling.

The first of the three women’s projects was the wood-saving ovens. These are a common alternative used to curb excessive firewood use, improve health, and avoid

burns. Ejido Felipe Carrillo Puerto successfully completed these ovens, but while investigating the garden project, it was apparent that the majority of the women of the ejido did not use them and continues using the traditional *tres piedras*, or three rock, method. In order to do the gardens, the women promised Jorge they would use the ovens. Jorge was aware that this was not happening and when asked about it, he answered that it would take time; in the end it is all up to the women and the community.

The home garden project seems to be following the same pattern as the wood-saving ovens, and is dwindling in use. One of the main limitations of this research is its short-term duration. In order to accurately detect the decrease in use of these sustainability projects there would need to be longer-term research following the use – or disuse – of the ovens, gardens, and then bakery. Although it is difficult to tell what the fate of these projects will be, the challenges that were presented seem to reduce the chances of long-term sustainability amidst the projects themselves. However, there is also the potential that the environmental consultants will continue a very long-term relationship with the community and motivate continual sustainable development. Sustainable development projects throughout Mexico have been short-lived and this makes for a bleak future; although the consultants are currently providing support for the projects, this may end at any time. Although the purpose of this research was to give a snapshot of the community in this dynamic period of time, illustrating the women's strength in maintaining a household in the face of external pressures, and the community's collaboration with well-intentioned external actors, it is easy to note that the challenges are many. The future of the gardens is a question mark, and I plan to continue

returning periodically to the community to see how the projects (the women's three projects as well as the ecotourism and bee-keeping) are unfolding.

Future of the Ejido

To achieve what we started working on; to make the ruins and cenotes work for us, so that the gringos can come and we can have work. To continue working on the cenotes one by one, that everyone can have work. The vision is that everyone gets ahead. – Don Gregorio, ejido leader, on vision for the community

Don Gregorio is a very charming and confident man. He is very talkative and smiling, and when he speaks of the work being done in the community, his optimism towards the future is contagious. The community respects him and he is well-liked. He helped construct the raised garden bed for his wife (Figure 21), and is very supportive of the projects that are currently underway in ejido Felipe Carrillo Puerto. I ask him what his thoughts are on the work being done by the environmental consultants, and he responds:

I see that they are working well with us, stupendously. They have gotten us much funding...the two projects with the women, and the bee-keeping infrastructure, but we are missing a lot here. They are the project managers, what they look for is money we do not have to pay back because we know there is funding like that.

Don Gregorio is also a very intelligent man. He has spoken at length with both environmental consultants and understands their role and the mutual vision that is underway for the sustainable development projects, so that the people can 'get ahead,' as many women stated as a main goal for the future. The larger picture for the ejido is a mixture of potential and challenges. In a world that is growing in economic terms, and

relies heavily on capital, any community that has just received electricity and running water less than a decade ago faces many challenges.



Figure 25: Don Gregorio, ejido leader, in front of raised garden bed. (photo by author)

Rich in biodiversity and ecological wonders, the community boasts colorful landscapes full of history and life. Ejido Felipe Carrillo Puerto has great potential for turning these natural wonders into economic resources. Working with the NGO and environmental consultants has been one of the few available methods for doing so. It is easy to ponder on a question posed by Bebbington in the case of rural sustainable development: Can rural sustainable development efforts be anything more than islands of sustainability in a sea of degradation? (Bebbington 1997). Macro pressures that are not discussed here are very relevant topics for further research; economic pressures from

the outside and the continual disconnect between government and non-governmental entities are major factors in the quest for true sustainable development in the rural Mexican landscape. Delgado et al. (2006) attempt to answer Bebbington's question and conclude that Mexico appears to be moving away from consisting of mere islands but only under certain conditions. While small farmers in Mexico are in an increasingly precarious position due to the withdrawal of state subsidies, those small farmers that survive in the medium term may be those who have found new markets of environmentally based production (Delgado et al. 2006).

The *conscientisation* occurring in Felipe Carrillo Puerto around environmental resources and the potential to integrate their various projects (apiculture, agroforestry, ecotourism, and women's projects) may be an alternative way to survive. A stronger link is needed between grassroots efforts and larger national efforts; efforts that incorporate participation and empowerment and that, above all, continue to seek ways in which to improve. Livelihoods and ecosystems depend on the continual improvement of these endeavors.

Appendix A.

Lista de semillas sembradas para el proyecto “Uso de hortalizas orgánicas de traspatio como alternativa de ahorro económico familiar, de salud comunitaria y conservación del entorno natural del ejido Felipe Carrillo Puerto”.

List of planted seeds for the project: “Use of organic home gardens as an alternative for economic savings for the family, community health, and natural conservation of the Ejido Felipe Carrillo Puerto.

Food Plants (Spanish/English)	Aromatic Herbs (Spanish)
Zanahoria/Carrot	Eneldo (hierba)/
Tomate/Tomato	Albahaca (hierba)/
Espinaca/Spinach	Epazote (hierba)/
Rábano/Radish	Perejil (hierba)/
Repollo (col)/Cabbage	Cebollino (hierba)/
Pepino blanco/White cucumber	Cilantro (hierba)/Cilantro
Lechuga/Lettuce	
Cebolla blanca/White onion	Flowers (Spanish)
Pepino verde/Green cucumber	Caléndula (flor)
Betabel (remolacha)/Beets	Manzanilla (flor y hierba de olor)
Calabaza/Pumpkin	Girasol enano (flor)/Dwarf sunflower
Pimiento xcatik /Bell pepper	Girasol (flor)/Sunflower
Apio/Celery	Guisante de olor (flor)
Acelga/Kale	Aguilena estrella (flor)
Colinabo/Coliflower	Ficoide (flor)
Pimiento moron/Red Pepper	Alhelí (flor)
Espárragos/Asparagus	Zinnia (flor)/Zinnia
Chile habanero/Habanero Pepper	Crisantemo (flor)/Chrysanthemum

Chile Serrano/Serrano Pepper	
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Appendix B.

PROYECTO: USO DE HORTALIZAS ORGÁNICAS DE TRASPATIO COMO ALTERNATIVA DE AHORRO ECONÓMICO FAMILIAR, DE SALUD COMUNITARIA Y CONSERVACIÓN DEL ENTORNO NATURAL DEL EJIDO FELIPE CARRILLO PUERTO.

Distribución de semillas.

Nombre (omitidos)		Semillas asociadas*	Asociación hierbas aromáticas	TIEMPO*
1	a.	Zanahoria D/lechuga S/rábano	Cebollino/manzanilla/girasol gigante	100- 120/60- 90/20-40
2	b.	Tomate S/cebolla S	Albahaca/manzanilla/ aguileña	45/98-120
3	c.	Espinaca S/repollo (col) S	Manzanilla/caléndula/guisante de olor	43/115
4	d.	Rábano/tomate S	Albahaca/caléndula/girasol variado	25-40/45
5	e.	Repollo (col)S /espinaca S	Manzanilla/eneldo/ caléndula	115/43
6	f.	Tomate S/ pepino blanco D	Albahaca/girasol/caléndula/ficoide	45/35-40
7	g.	Tomate S/espinaca S	Albahaca/manzanilla/ Caléndula	45/43
8	h.	Lechuga S/rábano D	Caléndula/albahaca/alhelí	60-90/25- 40
9	i.	Cebolla blanca S/lechuga S	Manzanilla/caléndula/Crisantemo	98-120
10	j.	Espinaca S/repollo (col) S	Eneldo/manzanilla/caléndula/aguilana	43/115
11	k.	Pepino verde D/ lechuga S	Caléndula/girasol/alhelí	35-40/43
12	l.	Betabel (remolacha) D/cebolla S	Eneldo/Caléndula/ficoide	60-105/98- 120
13	m.	Tomate S/cebolla S	Albahaca/manzanilla/caléndula/girasol	45/98-120
14	n.	Calabaza D/cebolla S	Eneldo/manzanilla/crisantemo	50-90/98- 120

15	o.	Pimiento xcatik S/espina S	Caléndula/albahaca/girasol enano	80-105/43
16	p.	Tomate S/apio S	Albahaca/eneldo/girasol	45/100-120

Nombre		Semillas asociadas *	Asociación hierbas aromáticas	TIEMPO*
17	q.	Cebolla blanca S/lechuga S	Manzanilla/caléndula	98-120/43
18	r.	Acelga S/rábano D	Caléndula/albahaca/Zinnia	40-50/25-40

Nombre		Semillas asociadas *	Asociación hierbas aromáticas	TIEMPO *
19	s.	Pepino blanco D/espina S	Caléndula/girasol/Aguileña estrella	35-40/43
20	t.	Colinabo D/cebolla S	Manzanilla/caléndula/Ficoide/alhelí	90-110/98-120
21	u.	Calabaza D/lechuga S	Eneldo/caléndula	50-90/43
22	v.	Pimiento S/tomate S	Albahaca/eneldo/girasol	80-105/45

Nombre		Semillas asociadas *	Asociación hierbas aromáticas	TIEMPO *
23	w.	Espina S/rábano D	Caléndula/albahaca/girasol	43/25-40
24	x.	Frijol (ejotero) D/pepino verde D	Caléndula/girasol/guisante de olor	50-70/35-40
25	y.	Pimiento xcatik S/tomate S	Albahaca/caléndula/girasol	80-105/45
26	z.	Calabaza D/cebolla blanca S	Albahaca/manzanilla/Crisantemo	50-90/98-120
27	aa.	Pepino blanco D/lechuga S	Caléndula/girasol/Crisantemo	35-40/43
28	bb.	Betabel D/colinabo D	Caléndula/girasol/zinnia	60-105/90-110

D= siembra directa **S**=siembra en semillero

Appendix C.

USO DE HORTALIZAS ORGÁNICAS DE TRASPATIO COMO ALTERNATIVA DE AHORRO ECONÓMICO FAMILIAR, DE SALUD COMUNITARIA Y CONSERVACIÓN DEL ENTORNO NATURAL DEL EJIDO FELIPE CARRILLO PUERTO.



CAPACITACIÓN



ENTREGA DE SEMILLAS



SEMILLEROS



CONTROL DE PLAGAS

INFORME DE CAPACITACIÓN. DEL 13 AL 15 DE NOVIEMBRE 2009

TEMA:	TALLER DE CAPACITACION USO DE HORTALIZAS ORGÁNICAS DE TRASPATIO COMO ALTERNATIVA DE AHORRO ECONÓMICO FAMILIAR, DE SALUD COMUNITARIA Y CONSERVACIÓN DEL ENTORNO NATURAL DEL EJIDO FELIPE CARRILLO PUERTO.	
ACTIVIDADES	PLANTEADAS	REALIZADAS
	Taller teórico-práctico sobre el uso de Hortalizas Orgánicas de Traspatio. <ul style="list-style-type: none"> • Presentación sobre los beneficios de las hortalizas orgánicas de traspatio. • Preparación de la cama de siembra con doble excavación. • Composteo para la fertilización del suelo. • Hacer siembra cercana. • Asociación y rotación de cultivos. • Cultivos de carbono. • Cultivos de calorías. • Uso de semillas. • La integridad del método. • Control de plagas 	<ul style="list-style-type: none"> • Presentación sobre los beneficios de las hortalizas orgánicas de traspatio. • Preparación de la cama de siembra con doble excavación. • Composteo para la fertilización del suelo. • Hacer siembra cercana. • Asociación y rotación de cultivos. • Cultivos de carbono. • Cultivos de calorías. • Uso de semillas. • La integridad del método. • Control de plagas
SITUACIONES DE CONFLICTO:	Ninguna.	
FECHAS DE EJECUCIÓN:	Miércoles 10 al viernes 13 noviembre.	
DESARROLLO	<p>La capacitación se realizó en sesiones teórica y práctica, dirigida a las veintiocho beneficiarias del proyecto.</p> <p>Se inició con la bienvenida y la presentación del objetivo de la capacitación, el cual fue sobre, "El uso de las hortalizas orgánicas de traspatio como alternativa de ahorro económico familiar, de salud comunitaria y conservación del entorno natural del ejido Felipe Carrillo Puerto.</p>	

	<p>Ventajas que este proyecto tiene para el grupo y al comunidad</p> <ul style="list-style-type: none"> • Se obtienen alimentos sanos. • Se contribuye al ahorro familiar. • Beneficia la salud en general de las personas. • Contribuye al desarrollo de la comunidad. • Integra la participación familiar. • Permite entradas para la economía familiar. <p>Se proyectó la presentación mediante gráficos sobre la historia de las hortalizas en las culturas precolombinas, sobre las ventajas de su uso, se habló sobre la participación de la mujer dentro del desarrollo comunitario y familiar, así como el daño para la salud y el ambiente natural por el uso de pesticidas y agroquímicos.</p> <p>Posteriormente se proyectaron los pasos para la realización de las hortalizas orgánicas de traspatio, mediante la proyección del "Manual del Cultivo Biointensivo de Alimentos" del Centro Agroecológico "Las Cañadas, bosque de niebla" con explicaciones sencillas y dibujos entendibles para las participantes.</p> <p>El desarrollo de la presentación mediante el uso del manual, se enfocó en los siguientes aspectos.</p> <ul style="list-style-type: none"> • Preparación de la cama de siembra con doble excavación, con una profundidad de 60 centímetros cuando la cama es a ras de suelo y de 50 a 60 cms cuando la cama es elevada en la modalidad de canche. • La preparación de composta para la fertilización natural de los suelos de las hortalizas orgánicas. • Hacer siembra cercana, una técnica para aprovechar el espacio de la cama y obtener 4 veces más producto. • Asociación y rotación de cultivos, es la relación que tienen dos o tres plantas entre sí para un mejor desarrollo y beneficio entre ellas • Cultivos de carbono, cultivos como el maíz, el centeno, la haba, amaranto y girasoles entre otros, además dan suficiente materia orgánica para la producción de composta. • Cultivos de calorías. Producen una gran cantidad de producto en poco espacio, como el camote, la papa, el ajo y yuca, entre otros.
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	<ul style="list-style-type: none"> • Uso de semillas. Producción de cultivos a partir de la recolección y uso de semillas de las hortalizas orgánicas. • La integridad del método. Consiste en la integración de los diferentes pasos en el método "Biointensivo", equilibrado y en armonía. • Control de plagas. Control natural que evita el uso de agroquímicos y pesticidas que dañan la salud del cultivo y las personas.
COMENTARIOS Y OBSERVACIONES.	Las integrantes del grupo tuvieron algunas dudas sobre el método de las hortalizas orgánicas, las cuales fueron aclaradas en la capacitación y en la práctica.

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